Drug Markets

June 1930

Established 1914

The Magazine of the Manufacturing Drug Trade

Editorials 545

A Questionable Advantage—Keep the Pharmacopoeia Independent—Why Cut Profits for All ?—Another Attack—Ergot Has its Day—Far Less a Problem—Alcohol Bureaucracy

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Coming Issues

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VOL. XXVI **DRUG MARKETS, INC.** NUMBER 6

PUBLISHERS

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 W. 31st St. N. Y. City

Editor
THOMAS R. FARRELL

Business Manager
FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE. POSTAGE PAID TO ALL COUNTRIES; THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES. PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE, AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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The Forty Thieves . . . . .

In a well-known tale of the Arabian Nights, a band of forty thieves hid themselves in jars. Their object was to settle a score with one who had found out the hiding place of their treasure stores.

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Buyers' Guide

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Owens-Illinois Glass Co.

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Hinde & Dauch Paper Co.

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Bond Mfg. Corporation
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Sun Tube Corp.
White Metal Mfg. Co.
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Anchor Cap & Closure Corp.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Hermetic Co.
Williams Sealing Corp.

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Through the constant study of the needs of manufacturers and through research of the ways to improve manufacturing processes, we strive to keep our facilities for offering complete service a little in advance of actual requirements.

There will be available for publication from time to time in our Catalogue---information relative to the essential oil industry and the uses of Essential Oils that will be of interest to those employing these products in their industries.

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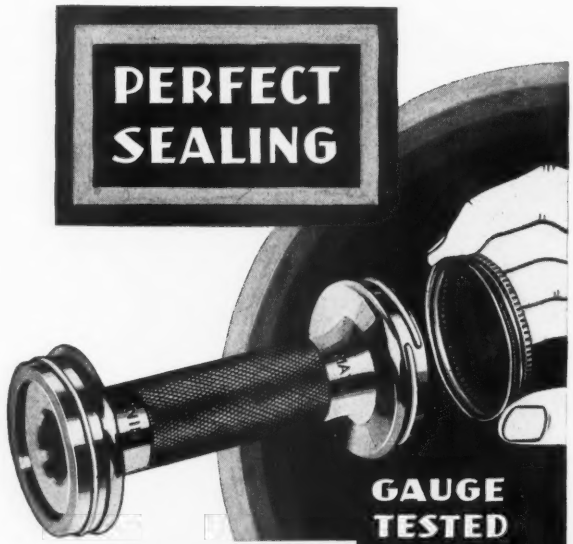

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Makers of the Crown
(THE FAMOUS CLOSURE FOR WIDE MOUTH GLASS)

The construction of a canal across the Isthmus of Panama to connect the Atlantic and Pacific Oceans, was initiated by the United States in 1904 with the signing of a treaty with the Republic of Panama. General George W. Goethals was ultimately placed in charge. The Canal was completed under his management, and opened to navigation in 1914. The Canal is 50.45 land miles long; a total of 53,246 commercial toll-paying vessels have passed through up to June 30, 1929.

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Specially Denatured Alcohol

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Your production is assured of strictly high quality, as far as Alcohol is concerned, when you use "Everclear".

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Cleveland, Ohio
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Gretna, La.
Indianapolis, Ind.
Kansas City, Mo.
Memphis, Tenn.
Minneapolis, Minn.
Nashville, Tenn.
New York, N. Y.
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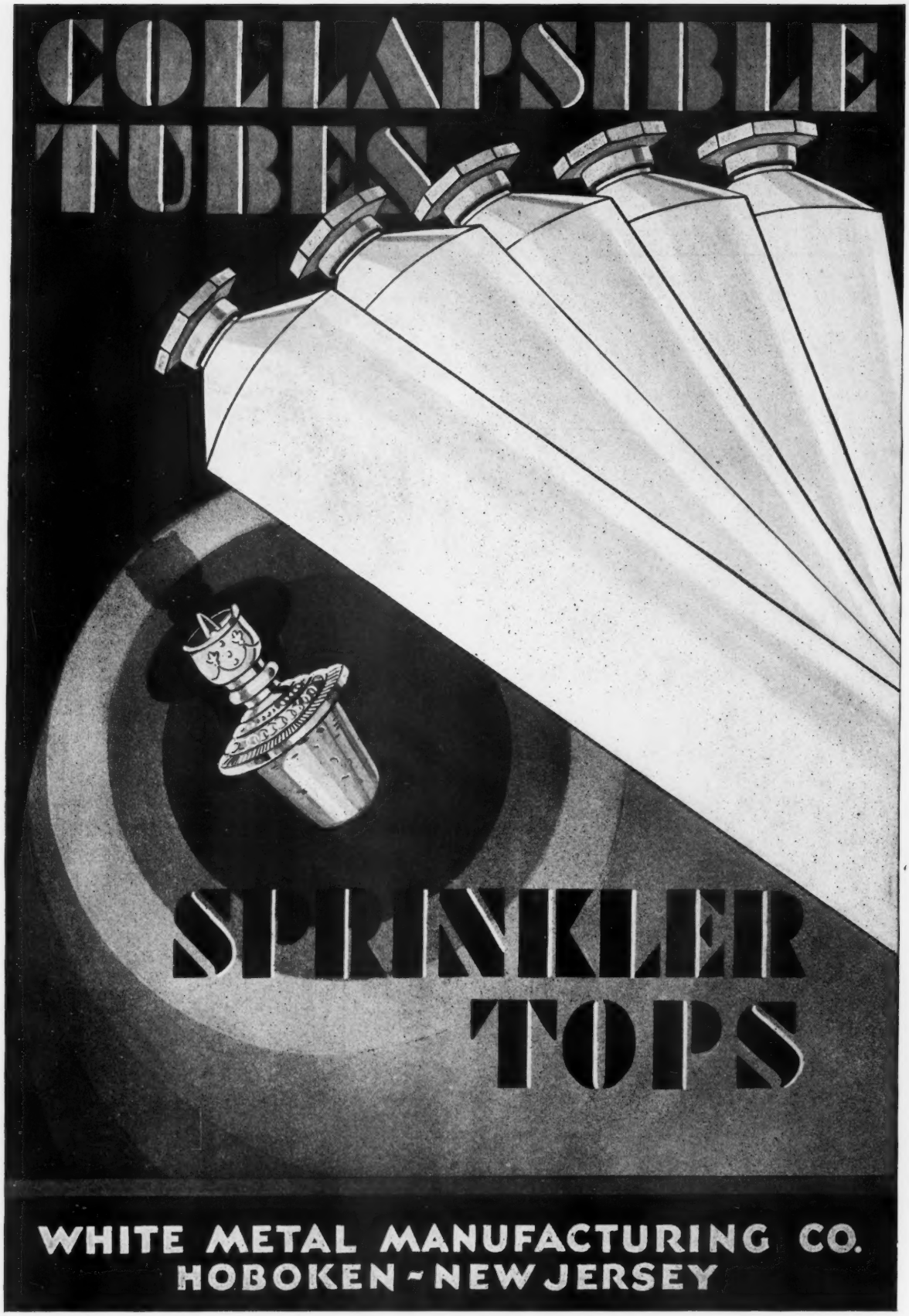
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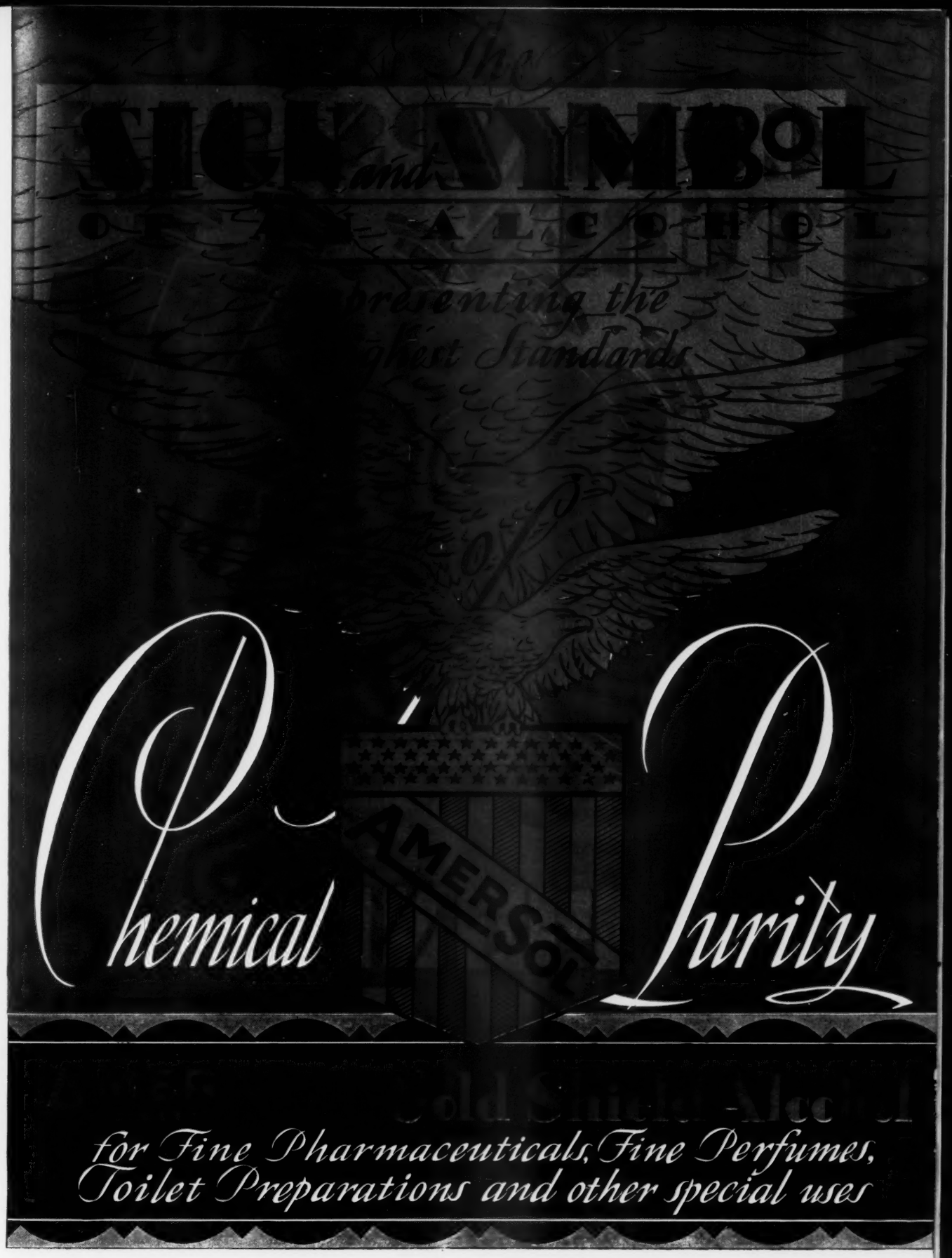
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AMERSOL
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¶ All GOLD SHIELD containers bear the following Guarantee Label—

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THE affixing of this label guarantees the contents of this package to be AMER-SOL GOLD SHIELD QUALITY —a new and higher standard of chemical purity.
AMERICAN SOLVENTS & CHEMICAL CORPORATION
NEW YORK, N. Y.

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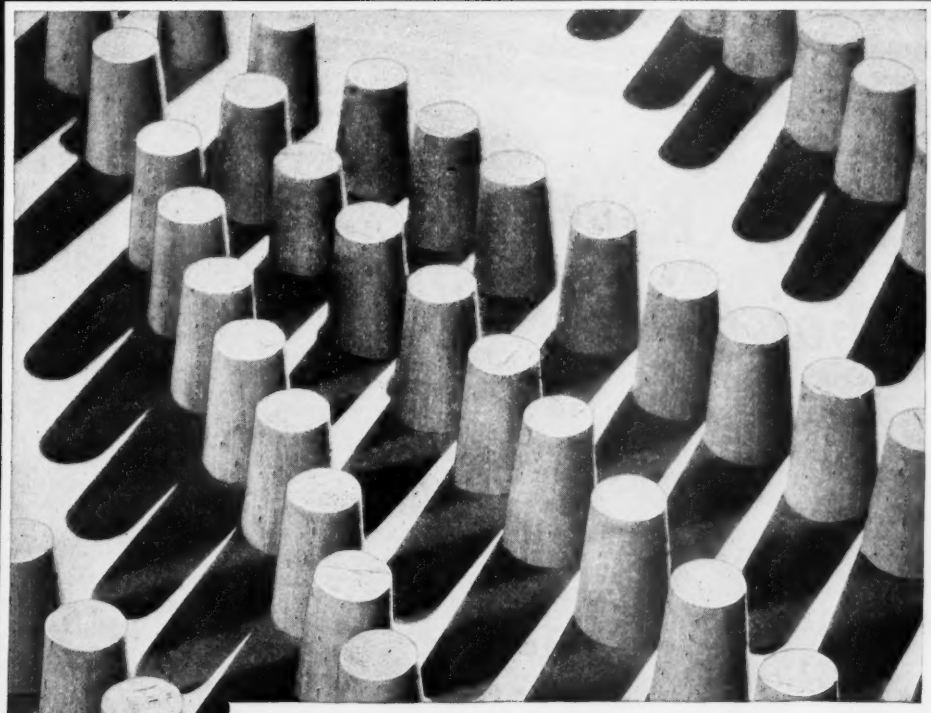

Uniformity doesn't end with ingredients, bottles, and labels. Your packages also deserve the uniform security of Armstrong's Corks.

Production *runs smoothly with* ARMSTRONG'S *corks*

IT'S easy to keep your production line moving on schedule when you put Armstrong's Corks in your bottles. Whatever grade you use, no time will be lost due to undersize, oversize, or otherwise imperfect closures.

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If you are not already using Armstrong's Corks, and want to see what "up to grade" really means, send for samples and prices. Ask also about Armstrong's Embossed Top Corks, the distinctive closures with colorful tops designed exclusively for your package. Armstrong Cork Company, 913 Arch Street, Lancaster, Penna.

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A GRADE FOR EVERY NEED . . EVERY SACK GUARANTEED

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"*Quality Products Since 1892*"
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Manufacturers of toiletries who are in constant touch with public preference have selected the ANCHOR AMERSEAL CAP for their products. These men (a few of whose names and brands appear at the right) know that under this neat closure there can be no hardening, evaporation or deterioration of the contents. And because there are no threads to gum, freeze or cement to the container, it is surprisingly easy to open and reclose securely.

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Anchor Cap & Closure Corporation

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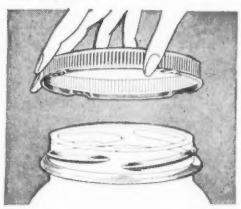
19,250,000 *advertisements in The Saturday Evening Post and The Ladies' Home Journal are increasing the already great demand for products packed in glass under Anchor Amerseal Caps. Seal your products with Amerseals and get your share of this business. See our advertisements in The Saturday Evening Post and The Ladies' Home Journal.*



A quarter turn to the right applies the Anchor Amerseal Cap. Lugs, formed to fit the contour of the glass threads, draw the cap down and effect a tight uniform contact around the complete top edge of the container finish.

MANUFACTURERS: To secure full information about Anchor Amerseal Caps fill in and mail coupon!

Send detailed advantages of using Anchor Amerseal Caps on our packages

Name .....

Address .....

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We manufacture .....
and put out about ..... packages per year. Under separate cover we are sending empty samples of our packages.

A GOOD LINER ,,,,, FOR A GOOD SEAL

IT would be impossible for your product to reach the consumer in perfect condition without the proper liner. It is of equal importance to the cap or the container itself.

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BUSH TERMINAL - - - BROOKLYN, N.Y.

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Reduce your shipping costs by using better shipping boxes.

If you use corrugated fibreboard boxes, our high cushion corrugations will be found effective in neutralizing transportation abuses because they run 36 to the foot with 3-16 of an inch between the heavy liners, giving a board caliper of practically ¼ inch over all — an unusually strong, tough board, which meets every railroad requirement.

These high corrugations have become extremely popular wherever our corrugated products are used in hundreds of our biggest industries because they are always dependable in protecting shipments, incidentally reducing troubles with carriers and customers, and demonstrating their lower final cost.

On a par with our corrugated quality, our solid fibre products are extensively used and in demand by a large number of industrial fields.

Give our fibreboard containers a fair, square trial. You will find that they are always dependable, high quality boxes, lowest in cost in the long run, that stand up strong and aggressive in the defense of your goods under punishing conditions in transit. When you write, refer to Dept. 7 for quick service.

CONTAINER CORPORATION OF AMERICA

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Seven Mills • Fifteen Factories
Capacity • 1300 Tons Per Day

General Offices • **Conway Bldg.**
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Your Customers know:

There IS a Difference in Collapsible Tubes

SOME tube packages of extreme quality, fail in sales because the tubes in which they are sold belie the quality of the product itself.

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For in this day when nearly everything is sold in tubes, your consumers know: There IS a Difference in Collapsible Tubes.

If you are interested in tubes which will build sales and create customers' goodwill, it will pay you to investigate New England Quality, if you are not already familiar with them.

Samples and prices of plain or decorated tin or lead tubes will be furnished promptly on request.

NEW ENGLAND COLLAPSIBLE TUBE COMPANY

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NEW ENGLAND COLLAPSIBLE TUBES

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MORE than 60 years ago when the Mallinckrodt Laboratories were first organized, less than 50 chemicals were manufactured. A new firm without previous experience but with the Spirit of Service dominating every thought and action. The answers to the many questions that constantly arose were determined solely by the dictates of this spirit. An auspicious beginning for any firm to be guided only by the satisfaction of its customers.

The trade was quick to recognize the excellence of Mallinckrodt chemicals and the integrity of their makers. A reputation was built that has endured and grown brighter through these many years. To-day the Mallinckrodt Laboratories are one of the largest manufacturers of fine chemicals in the United States—a distinction that we share with the many friends who helped to make it so.

While our products and customers have increased many fold, that personal touch which guided the Spirit of Service is never lacking and we invite you to call upon us at any time. We will not disappoint you.

Mallinckrodt
Chemicals

Standard for over Half a Century

MALLINCKRODT CHEMICAL WORKS

SAINT LOUIS MONTREAL PHILADELPHIA NEW YORK

Drug Markets

Vol. XXVI JUNE 1930 No. 6

A Questionable Advantage

ONLY two months ago we commented favorably upon the use of the line, "This product and advertisement accepted by the American Medical Association," in advertising to the public of S. T. 37. Now, with a later advertisement of S. T. 37 before us—in which the approval of the A. M. A. is given much larger display, grave doubts arise in our minds as to the value of such publicity, either for an individual manufacturer, or for the manufacturing drug trade as a whole.

IF MANUFACTURERS are, with their own money, to educate the public to a point where the public accepts the approval of the A. M. A. as a necessary qualification to any drug product that it buys, manufacturers should be prepared to take the consequences which experience shows will follow. Too close association with a group with whom co-operation should always be carried on in a cautious manner, is not the safest thing in the world. The A. M. A. makes no pretense of being favorable to the drug manufacturing industry, and admittedly co-operates with the industry only when it has to do so in its own interest.

THE physicians, through the Council on Pharmacy and Chemistry, of the A. M. A., show that recognition by the public of their right to censorship is highly desirable. They give permission to use the line, and, after due experiment and supervision, they establish a seal for manufacturers to use.

THERE are but few manufacturers in the trade who have not at some time or other come into sharp disagreement with the A. M. A. With perfect honesty and sincerity on both sides, these disagreements are bound to continue. The interest of the two groups can not always run parallel, nor is it necessarily in the public interest that they should.

THE advertising which drug manufacturers direct toward the public can be used to the best advantage when it enhances their own prestige and the value of their products. For many manufacturers, seeking temporary advantage, to spend large sums of money to make the public accept a censor for the future products of these manufacturers, does not, at the present time, seem wise.

Keep the Pharmacopœia Independent

While it can readily be agreed that the acceptance of future Pharmacopoeias by the Food and Drug Act is unconstitutional for the reason that it gives to a non-governmental body the power of making standards to be enforced under the act, we do not agree with the conclusion reached by Charles Wesley Dunn who has drawn this fact to the attention of the industry. Mr. Dunn follows this information with the thought that it is best for all concerned to have the Pharmacopoeia compiled by the government with the co-operation of the two professions directly concerned—pharmacy and medicine.

We fully concur in the feeling that the American Pharmaceutical Manufacturers Association—of which Mr. Dunn is counsel—should not have been refused inclusion in the Pharmacopoeia Convention. But, while the thought is quite general that due to pharmacy being in the saddle, the association was discriminated against because its members sell ninety per cent of the products dispensed by physicians, by the same sort of reasoning why did the convention not favor the application of the Federal Wholesale Druggists Association whose very existence lies in the fact its members are aiding retail pharmacists to meet chain store competition ?

Unfortunately feelings have been hurt by the action of the convention. But we do not believe that any groups of manufacturers—including the group in question—will be as well off under government-made Pharmacopoeia as it is under the present system. And as to the welfare of the nation, we offer the undisputable fact that although in other countries pharmacopoeias are drawn under governmental supervision, the United States Pharmacopoeia is generally recognized as the best in the world.

We hope that the entire drug trade will get behind a movement to have Congress amend the Food and Drug Act so that each successive revision will be adopted as it is published. This will correct this phase of the unconstitutionality of the act.

Why Cut Profits for All?

The momentum gained by the movement to distribute ten-cent size packages through drug channels is surprising in view of the very small percentage of profit realized on these items not only by the manufacturers but also by the retail stores handling them. Manufacturers well know the higher cost of producing such sizes, if these sizes are properly made to bear the proper proportion of all expenses, but it is not generally realized that the retailers—who are forcing this movement—have quite as much to lose as the manufacturers.

If the grocers could get rid of the handling of bars of soap and other products that sell for five and ten cents, they would be much better off in the matter of profits. The recent Louisville survey made by the Department of Commerce proved that it cost two cents a piece to handle the sale of these items—a matter of forty per cent. It cost no less to handle the more expensive items, but the grocers must handle these lower priced articles.

It is definitely known that the sale of the small sizes through drug trade channels cannot be profitable to any branch of the trade. Then why do the manufacturers yield to the demand on the part of those who are unwillingly harming themselves. Would not a plan of educating the retailers be much the wiser thing ?

• • •

Another Attack

The fact that the practice of dispensing by physicians has been seriously attacked, and that a movement to stop the practice is a taking place in the medical profession, is interesting. It clearly demonstrates that no branch of the drug industry is free from those critics who would regulate the industry in a manner unfavorable to manufacturers. Other branches of the industry are constantly being hampered in their expansion by actions of the A. M. A., the Department of Agriculture and other organizations.

When any branch of the industry is threatened in its method of doing business, the strength of the entire industry should be thrown behind the one group. And in this particular case, manufacturers distributing by all methods should aid in preventing the movement from making any headway.

Ergot Has its Day

The ergot controversy is having its day in court. The hearings before the Senate Committee demonstrates the type of campaign that has been waged in an effort to blast the confidence of the professions of medicine and pharmacy in the products of the leading drug manufacture. Merely because the manufacturing drug industry chose to act within its rights and buy ergot where it saw fit, the entire industry, officials of the Department of Agriculture, the American Medical Association and the Pharmacopoeia Revision Committee must be subjected to a campaign that can do no other than raise doubt in peoples' minds.

The one man who prevented the sale of Spanish ergot by his very actions is the man who is making the charge. An effort to become an important factor in ergot, is sought to force the manufacturer to buy from him. Purely commercial in his motives, he has repeatedly thrown the commercial charge at the manufacturers, and has had the aid of disgruntled employees and professional men in conducting his campaign.

• • •

Far Less a Problem

Little by little the drug manufacturing industry is reaching a point at which the distribution problem is thought to be past. No longer are manufacturers vitally interested in this one problem alone, although it is quite true that the problem still exists and will continue to exist as long as manufacturers are in business. But because of the fact that the colossal upheavals among the distributing factors have largely ceased to occur, and also because of the fact that rapid formation of chains of a short while back has resulted in a large number of failures, or semi-failures, the distributing factors of to-day have the semblence of stability.

Manufacturers do not fear those with whom they are doing business. They know just what may happen in any of these houses. They have done business with these houses and know just about how the policies of the houses will run. It is the new factors, or the sudden expansion of one of the houses that causes worry. Changes for the immediate future, at least, will doubtless be slow and even in tone. Any manufacturer with his ear to the ground can determine the trend and prepare for the changes well in advance. There is no reason for a manufacturer to believe that he will wake up in the morning and find a major part of his outlets taken away from him.

Alcohol Bureaucracy

It is indeed difficult to determine any relief from the Williamson Bill as the result of the recent decision of the Supreme Court regarding the alcohol permits of Galeno Chemical Company and D. P. Paul. In this decision, it is true, the court stated that the terminating by regulation and not for cause of permits granted for an indefinite period was illegal. So to the normal mind would come the conclusion that these old permits are still in force.

But no such thought is comprehended by the Prohibition Bureau. In fact the bureau makes the statement to DRUG MARKETS that each permit will be decided upon its merits. This doubtless means that each permit must be fought for, and possibly in court. And this application to revive a permit that legally was never killed, will probably have to bear the scrutiny of the Department of Justice in accordance with the provisions of the Williamson Bill.

It is the same story all over again. The bureau will continue to cancel permits and will state a cause. Whether or not the cause is justified will have to be decided in court on the proceedings instituted by the permittee. With new or old permits the bureau adopts the proposition of calling a man guilty and then throwing upon the accused the weight of proving his innocence.

Ten Years Ago

From our pages June, 1920

Merck & Co. have sued to recover $538,128 from the Alien Property Custodian and the Treasurer of the United States. The papers are on file in the District Supreme Court at Washington, D. C. The amount demanded formed part of the assets of E. Merck of Darmstadt, Germany. The sum includes $490,000 said to be due the New York firm by E. Merck.

F. E. Watermeyer, president of the New York essential oil house of Fritzsche Brothers, recently completed twenty-five year's service with the company. Mr. Watermeyer was presented with a silver service by the employees.

Julian W. Lyon & Co., Manhattan, was incorporated with a capital of $100,000. Essential oils and chemicals. J. J. Mason, R. W. Smith, J. W. Lyon, 35 Fulton st, New York.

H. K. Mulford Co. has moved its New York office from 57 Fulton st. to 109 Reade st. in order to find more room for the housing of its office force and provide for a campaign of business expansion in the metropolitan district.

Max Mueller has been elected president of the Rhodia Chemical Co. to succeed John J. White, who has disposed of his interests.

Amer Co., Buffalo, N. Y., was incorporated with a capital of $750,000. Drugs and chemicals. W. H. Boruka, W. Amunds. F. C. Amer, Buffalo.

Ewing Galloway

Outdoor Advertising in China

Development of
the ten-cent counter
in the drug trade
may mean

More Grief for the Manufacturer

STIMULATION in the field of ten-cent packages has been very marked within recent months, and within that time many manufacturers have joined the ranks of those marketing ten-cent packages. But the real cause of this stimulation has not been within the manufacturing groups, but rather a desire upon the part of those directly concerned with the retail drug trade to have these packages distributed through the regular drug channels and have them sold in the retail drug stores of the country.

Because the agitation to promote the distribution of this size package has lately had its initial promotion from the retail and wholesale side of the trade, the manufacturers must not take for granted that it will react to their benefit. They must look at the many disadvantages that are likely to accrue before they are stampeded into it.

In March 1929, DRUG MARKETS made the first survey of conditions surrounding the marketing of ten-cent sizes of drugs and toilet preparations that has appeared. This investigation was undertaken with a view to determining just how far the ten-cent size could rationally be developed, and whether distribution through the drug trade itself was logical. A selected list of manufacturers marketing ten-cent packages were questioned, as well as Five and Ten Cent chain store heads, independent drug retailers, and others. The conclusions were most interesting, but quite clearly indicated that the large majority of the manufacturers, at least, were not in favor of selling their items at ten cents in the regular drug channels.

Only Two Reasons

From this survey it could well be concluded that there are only two justifiable reasons why any manufacturer should care to entertain the idea of packing his goods in ten-cent packages, and these are that he considers the ten-cent package as a sampling proposition, or that he considers that by means of the ten-cent package he is obtaining additional business that would never come to the standard size. And if he considers that, by means of the ten-cent packages, he will obtain new business, then he had better confine his sales to the ten-cent stores, for these are the stores that this type of buyer frequents. But if he is convinced that the ten-cent packages are purely a glorified sampling proposition, then he should place these packages in the regular drug trade channels if he is willing to accept the long list of disadvantages that must be considered purely from the point of view of the manufacturer.

To quote a manufacturer who is marketing ten-cent packages:

"No manufacturer makes, on the ten-cent size, a profit nearly so great as he makes on the standard sizes. The cost of the actual container, and of filling and packaging it, is almost as great with one size as it is with the other. This eats into the margin between finished cost and selling price of the ten-cent package so that the percentage of profit is very limited in comparison with that of the larger sizes."

And as a specific example of the increased cost of containers for the smaller unit we have in mind the fact that in collapsible tubes, the containers to make the same volume of retail sales in dollars and cents cost $9.00 for the ten-cent size to $3.00 for the fifty cent size. This is based, of course, on list retail selling prices, or on the manufacturers' and wholesalers' prices quoted with regular trade discounts applying to both sizes of package.

In addition to this materially increased cost of simple containers must be added the additional cost of filling, the additional cost of cartons and shipping cases, the additional material and additional waste, the higher inventories, increased billing and bookkeeping, etc.

In the face of these undisputable facts, it is apparent that one of two things is wrong with a manufacturer's method of doing business if he believes that he can merchandise his products through the regular drug channels in ten-cent sizes and still make a fair profit. The first of these two things is that he is not charging against the ten-cent sizes the proper share of the advertising appropriations and other general expenses that pertain to the original sizes of packages with which the lines were developed. And this is quite generally true since many manufacturers do not consider that the sale of ten-cent goods through the ten-cent stores interferes in any way with the sales of their regular sizes which are supporting these expenses. They look upon it as new business. But just how fast would these smaller packages sell in the ten-cent stores were it not for the heavy advertising that is keeping the products before the buyers ? The ten-cent stores themselves would refuse to handle many of the packages they now carry were it not for their popularity with the public—a popularity built up and maintained through advertising.

But if the manufacturers are charging the proper proportion of these charges against the ten-cent items and still can see a fair profit—then the only conclusion is that the regular size packages are over-priced and should be reduced. And far better would it for manufacturers to cut the prices on the regular sizes now voluntarily, than to wait until some competing manufacturer who has not entered the ten-cent size package in a general way, cuts his prices at a time when the other producers are loaded with a heavy demand for the short profit ten-cent items.

From Retailer's Angle

Looking at the problem from the side of the retailer —but with the manufacturer's interest in view— there can be very little doubt that the ten-cent size will interfere with the sale of the regular sizes. When the two sizes are placed in the same store, there will be an increasing tendency upon the part of the buyer to pick up the ten-cent size. This will seriously affect the manufacturer, but it will also affect the retailer since his time will be taken up with many sales of smaller amounts. The questions of price maintenance is said by some to be influencing the retailers in their desire to market this size package, since as one retailer recently remarked: "I make three cents on the ten-cent size, but I lose three cents on the regular size." If this is true, then the retailer is going to push the ten-cent size all he can and push the burden of the decreased profit back to the manufacturer. Thus in cases where the standard sizes are cut deeply in price, the retailer will attempt to make up his short profits by making many sales of the smaller sizes.

(Continued on page 572)

Counter Currents in the U. S. P.

The genial Chairman of Revision, E. Fullerton Cook was re-elected, despite sharp opposition due to his favorable attitude to physicians.

FACTIONS formed for very specific purposes, but at times unwittingly aiding other factions with whom they were not in the least in accord, caused the recent Pharmacopoeia Convention to be one of very peculiar cross-currents. There appears to be very little to determine what groups may be termed radical, and what may be called conservative. Both terms were applied to practically all groups depending upon the point of view of the describer.

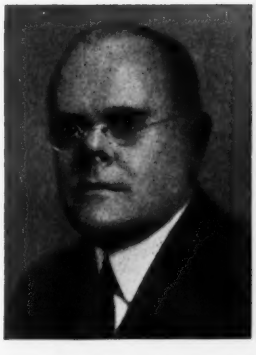
The final outcome of elections were that Dr.Cook maintained his position as chairman of the Revision Committee, but he is much as a general without his army, since the opposition walked off with the great bulk of the members of the committee. But to get a true picture, one must know just what the various interests stood for, and how, at times, their efforts went along the same channels.

A. G. DuMez, the man around whom the opposition to Dr. Cook centered, was elected Vice Chairman of Revision.

First there was the group that centered around A. G. DuMez in an attempt to displace Fullerton Cook as chairman. This group was said largely to be motivated by the thought that Dr. Cook leaned too much to the physicians and did not give pharmacy enough voice. Naturally, many manufacturers would lean to this side were it not for the fact that the ticket placed in the field by this group—and very largely elected—contained many less representatives of manufacturers than were on the former committee. This group really represented the profession of pharmacy and very little else, although many manufacturers were favorable to the thought behind this opposition.

S. L. Hilton, known generally as the "boss of the convention".

The government officials and the A. M. A.,—as represented by Dr. Morris Fishbein,—are said to have been very outspoken and quite united in their opposition to any move to upset the Revision Committee, particularly by displacing Dr. Cook. In fact, it is quite generally stated that Dr. Durrett—representing the government—and Morris Fishbein made a direct threat that any upset would cause them immediately to take steps to have a bill introduced in Congress taking the Pharmacopoeia out of the hands of the convention and placing it in the government. At first the threat was thought merely to be a bluff,



The Government retains its direct connection in the election of L. E. Warren to position of secretary, replacing Lyman F. Kebler, recently resigned from government service.

but soon those active in behalf of DuMez saw that these men were in earnest. While this threat caused some slackening on the part of certain individuals who did not want to be responsible for precipitating a move whereby the government would take over the Pharmacopoeia, the fact is that DuMez backers were two votes short of the required amount to elect him in Cook's place.

The government and the A. M. A.—as represented by Fishbein—were also united on another point. And in this point the manufacturers were also directly concerned. That was the fight of Dr. Rusby on the admission of sub-standard drugs and the use of such products in manufacturing Pharmacopoeia items. The battle over this subject waxed hot when Dr. Rusby and Dr. Dunbar engaged in a debate over the subject.

Said Dr. Dunbar:

"It has been my hope that this controversial question about the application of the food and drugs act to various drug commodities, which has been the subject of propaganda for the last two or three years, of what I consider a wholly unethical character, would not come before this convention during these sessions. Since it seems now to have been introduced, it is only fair to the organization which I represent to state most emphatically that the terms of the food and drugs act as written by the Congress of the United States have been, and are, being enforced to the letter.

"The gentlemen on the right (Antonow) made the statement that he did not yield to the Department of Agriculture in its requirements that non-standard pharmacognostics should be labeled to show their deviation from the formula or pharmaceutical standard. Let me point out that that is the requirement of the Congress of the United States, written into the law, and not a law adopted or a regulation adopted by the Department of Agriculture. If that law is wrong, the place to seek its correction is through the Congress of the United States.

"Now I do not consider it the function of the Pharmacopoeial Convention to review the administrative acts of the Department of Agriculture in enforcing the federal food and drugs act, but I do recognize the vital interest that every delegate here has in the purity of the American drug supply. I do recognize that if it is the wish of this convention to learn the facts, the convention has the right to appoint a committee to make such investigation as is necessary to put before the country the facts. I would conceive it a pleasure to put at the disposal of the convention, or of a committee of the convention, all facts with respect to our enforcement of the food and drugs act regarding drug products at any time you may see fit to ask for it.

"It has never been the disposition of the Department of Agriculture to deny to any interested individual the right to find out the facts about our enforcement. They are available to you and I repeat that I will be glad to facilitate any proper inquiry as to our administrative operations.

The upshot of the battle was that Dr. Rusby's motion was adopted by the convention, striking out the provision for allowances for source, method of preparation, and keeping qualities of drugs, and restoring the language providing for standards of quality. According to the new Pharmacopoeia, pharmacopoeial preparations shall be made only from drugs that conform to the standard descriptions and tests of the Pharmacopoeia.

Still another point caused great distress on the part of the A. M. A.—as represented by Fishbein—and that was the restraint placed upon the physicians with regard to the actions of the Committee on Scope. In the previous convention, the physicians were given complete control of what should go into the Pharmacopoeia. This year, the anti-Cook group fought to curb this complete power on the part of the physicians.

In support of their proposition that the medical men should have less to say about what goes into the Pharmacopoeia, anti-Cook leaders declared that there are many new remedies and drugs that should be listed in the Pharmacopoeia; that these preparations have recognized value in the treatment of disease, but that the medical members of the revision committee had succeeded in excluding them from the Pharmacopoeia. It was even said that some doctors would like to exclude everything "except 13 or 14" preparations.

On the floor of the convention the doctors insisted that the Committee on Scope should have the final say as to the therapeutic value of drugs, in connection with their being listed or excluded from the Pharmacopoeia. It was pointed out that members of the medical profession established the Pharmacopoeia and conducted its affairs alone for many years, but that some years ago the Pharmacopoeial convention was opened to pharmacists, pharmaceutical experts and certain other scientific men, as well as to the drug trade. As time passed the number and power of the non-medical members grew until in the last revision committee they constituted perhaps a larger proportion of the revision committee membership than ever before.

It was declared in behalf of the doctors, that it would be more fitting if the new revision committee were composed on the half and half plan, 25 each of medical men and non-medical men. The last committee included 24 physicians. But the convention would have none of that. Ultimately, the famous and misunderstood two-thirds rule was adopted by the convention over the protests of radicals on both sides of the controversy between the medicos and the anti-medicos, and the related controversy over

Prof. Cook and the chairmanship of the revision committee. This rule leads substantially as follows:

"Resolved that all reports of all subcommittees of the Committee of Revision shall be printed in bulletin form and shall be submitted to each member of the Committee on Revision. If no objection is raised the report of the subcommittee will obtain. If objections are raised, the report shall be submitted to a vote of the entire Committee on Revision, and the report can be rejected only if a vote of at least two-thirds of the entire Revision Committee is registered against the report."

This rule was proposed by Dr. Arney and was characterized as a "middle of the road" proposition. It was said to tend to dissipate criticism of Prof. Cook.

The convention went on record in favor of Dr. Rusby's motion to amend the general principles for revising the Pharmacopoeia by adding the following:

"In determining what articles shall be introduced into and deleted from the Pharmacopoeia the term 'pharmaceutic necessity' shall be construed so as to include the necessity of the supply by pharmacists of drugs and medicines in frequent demand."

The following resolution was withdrawn by Dr. Rusby, in favor of the Arney—two-thirds rule:

"Questions of therapeutic usefulness shall be decided by medical members of the Committee on Revision and questions of pharmaceutic necessity shall be decided by the pharmacy members; provided that the conclusions thus reached by these respective groups shall be submitted for ratification by vote of the entire Committee of Revision."

The two-thirds rule was considered by some leaders in the convention like Samuel L. Hilton as the outstanding feature of the affair. The 1920 revision committee, it is explained, held that admission and exclusion should be decided by physicians on the committee, the pharmacist member to suggest. This was agreed to by the pharmacist members, according to some of themselves. In the final analysis, however, pharmacists complained that questions of admission and exclusion were not passed upon by the full committee. This year the convention acted upon the question itself as indicated above.

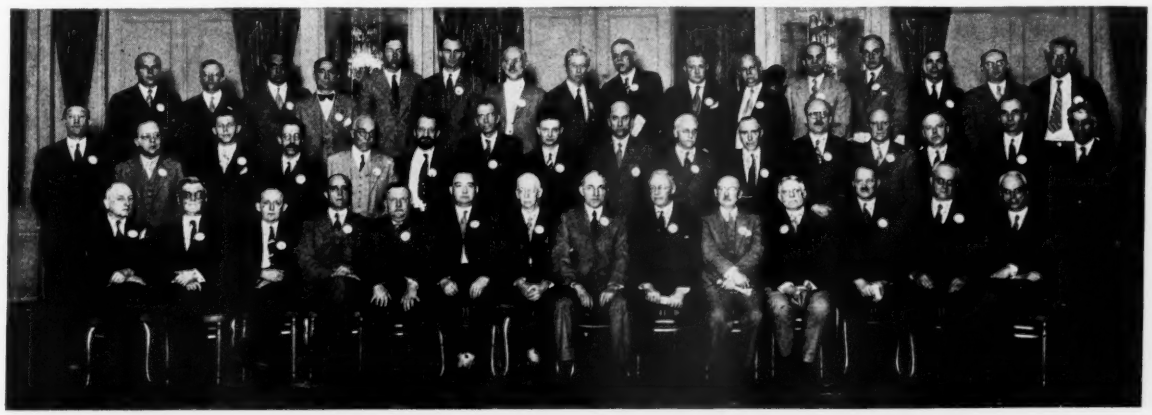
The convention also decided that the new Revision Committee should be composed of 17 physicians and 33 pharmacists and other scientific men. The selection of these groups was the job of the nominating committee, which did not finish its work until 4 a.m. of the second day of the convention. Dr. Hilton figured prominently in that committee meeting, as he did as chairman of the committee on arrangements in connection with other features of the convention, including the subsequent meeting of the new Revision Committee. He was referred to in complimentary terms as the "boss" of the convention.

The election of Dr. W. A. Bastedo as president of the convention followed the precedent established 110 years ago, in that he is a physician as well as a pharmacist. Incidentally, he became ex-officio, the eighteenth physician member of the new Revision Committee. Otherwise, the make-up of that committee is 17 physicians and 33 pharmacists.

This make-up, coupled with the two-thirds rule, and the campaign of the so-called reactionaries against physician-rule, has been the subject of much discussion during and since the convention. Some friends of Dr. Cook referred to the outcome as a "direct slap in the face" of the medical profession. It was said on good authority that Dr. Torald Sollmann, of Cleveland, Ohio, had refused to serve longer on the Committee of Revision, with which he had seen twenty years service. Morris Fishbein was reported as saying that he was going back to Chicago and "blow the lid off this thing."

On the other hand, there were wise men in the gathering, and friendly to Dr. Cook, who insisted that it was not a slap at the physicians, when properly analyzed. It was claimed by some anti-Cook men that the new two-thirds rule and the 17-33 ratio in the new Revision Committee's membership meant the end of physician-rule; that the 17 doctors would

(Continued on page 560)



The New Revision Committee

Quinine

Padang Highlands, Sumatra, where Sumatra Cinchona is grown

Cinchona, volcanoes, and mountains alternating the scenic effects in Java Highlands

A Kina plantation in Preanger, showing the manager's house and native dwellings

OF ALL drugs, that have come to be recognized as almost positive specifics in certain diseases, quinine is doubtless the most universally known, and, as a febrifuge, it has become a necessity to the civilized world. But, while its value as a therapeutic agent has been known from the time of its introduction into Europe, it is only within the last thirty years, that its action as a preventative in malarial and other intermittent fevers has been definitely understood. It was not until the fact, that malarial infection is due to mosquitoes, was discovered, that the action of quinine, in preventing recurrent attacks of fever was exactly comprehended.

As is well known the original source of supply of quinine bark was South America, where the cinchona species are indigenous in the forests of the Andes, between 10° N. Lat. and 19° S. Lat. principally, thus embracing the gigantic Andes range and it's virgin forests on the Eastern slopes.

Its earlier history undoubtedly is equally known to many of the readers, how in 1638 the Comtessa de Cinchon, wife of the Viceroy of Peru, was lying dangerously in the palace of Lima, and her doctors, as a last resort, in order to try to rid her of her high fever, dosed her with a powder, purported to have been made of a Peruvian bark on the advice of the Magistrate Don Juan Lopez de Canizares, who himself had been cured by it. The Comtessa recovered, took a quantity of the bitter powder back with her to Spain where after its introduction into Europe, the powder was subsequently christened by the botanist Linnaeus, with the name of Cinchona, as a tribute to the Comtessa de Cinchon.

When its fame and subsequent uses became well known all over Europe, the demand soon exceeded the supply. The harvesting practices in South America were, to say the least, extremely wasteful. They were carried on by special Indians, a special caste of natives, named Cascarilleros, who under the leadership of a chief, selected by them and named, *mayor-domo*, were preceded and guided in their work by the *Diestro's*, who were the prospectors and who selected the most lucrative spots for gathering of the bark.

In their much criticised methods, the trees were felled, by cutting close to the root, and the bark was stripped. Then the bark was dried in the sun, or before a fire, giving either sheets from the trunk and the main branches, or tubes and pipes from smaller ones. These were wrapped in *saroons*, and packed in bales.

This *China-plana* and *China-Convoluta*—The pharmaceutical trade name, by which they were known

By Hendrik de Leeuw

Fellow American Geographic Society

—were transported on mule back to the various ports of Bolivia, Peru, Ecuador, Columbia and Venezuela.

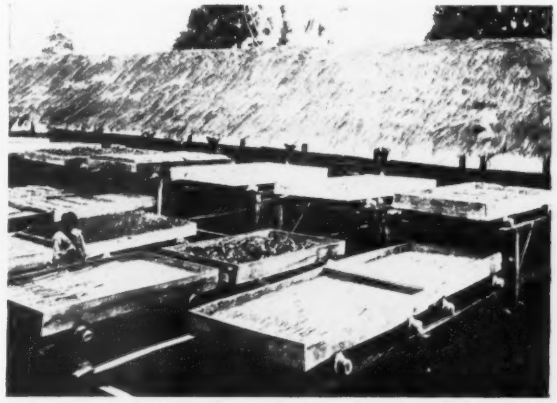
Now let us turn our eyes Eastward, to the island of Java, which, as we all know, holds the world's production record and the present monopoly of cinchona bark, supplying almost 95% of the world's production.

It is not my intention to give a chronological record of the various happenings, that moved the scene of cinchona growing activity from the Andes to the Pengalengan plateua in the Preanger Java, as that would swell this article to a disproportionate bulk. So let it suffice to say, that in 1852 Dr. I. K. Hasskarl was commissioned to go to South America, whence he returned with a collection of seeds to Batavia on the thirteenth of December. Similiarly in 1848 a certain Charles Ledger sold through his brother a lot of seeds to the East Indies Government and these were planted in the Dutch East Indies Government Kina estates at Buitenzorg. It is safe for me to say that this Ledger seed formed the foundation, on which this now so important industry has been built. This does not mean, however, that the growth of cinchona bark is entirely confined to Java. Besides the Andes, where the product still thrives in a small way, we find plantations f. i. in St. Helena, the Cameroons, and Tanganyika territory, the Malay States, and in the Government plantations in Madras and Bengal, the latter two, however, producing factory bark and both used in the British Indian Government quinine factories.

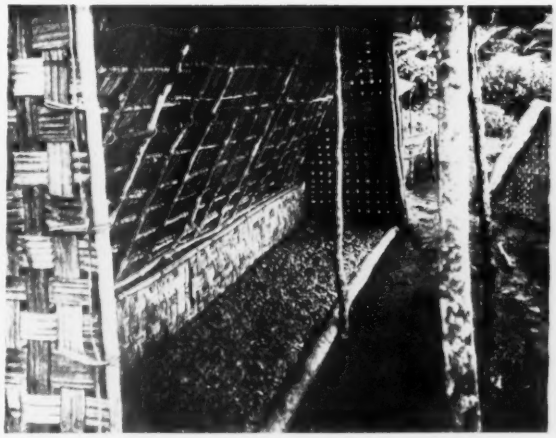
Still Java is the leading producer of cinchona bark. Here we find plantations clustered more or less around the Pengalengan plateau in the Preanger mountains on an altitude of about fifteen hundred meters, around Tjinjiroean, where really the first large tracts of kina were laid out, and in the Botanical gardens at Tjibodas. It was in these gardens that the famous Hortulanus Teysmann, in 1852 grafted from a true Cinchona *Calisaja*, won from a seed gathered by Weddell thus contributing to the glory and pride of that now so famous botanical kina garden. Further we find the plantations at Tosari, Pondok Gedeh, Pamanoekan and Tjiassem and in Sumatra in the Padang Highlands. There are in all, more than one hundred and forty plantations with a production of over ten thousand tons of cinchona a year.

While in the initial stages, when the little seeds, wrested from the mother country, were planted in Java in new soil and different surroundings than South America, this kina was planted in the jungle, which method in the last few years has given way to a planting in more open patches, where light and air can get at the young shoots. Young humus-rich

The Succirubra harvest of cinchona bark in Java



Drying pharmaceutical pipes of cinchona in the Java sun



Cinchona seed beds with plants at Preanger, Java

soil was selected on slightly ondulating grounds. At first seed gardens were laid out, in order to select those plants only with a high alkaloid content, and preferably situated in jungle forests, isolated from all other cinchona trees, so as to avoid cross-breeding.

After the ripe cinchona fruit had been harvested in the seed gardens, the seeds, being rather small,(of the Ledgeriana 2.2 lbs. seeds have 2.8 seedlings, while of the Succirubra, 2.2 lbs. have 2 million seeds) Legeriana produces the most ripe seeds from October to January, while Succirubra produces during the entire year. The seeds after picking, are dried on cotton sheets, stored in bottles or boxes and remain fertile for a year). The seeds are planted out in seed beds, remaining there until they have reached a certain height. The planting is done in the rainy *moesson*, on sloping-inward terraces. After growing thus a few years, bark can be collected, although in my experiences I found that it was always advisable to let the trees grow in order to secure a thicker bark.

The cinchona trees in general appearance are evergreen trees and look like an apple or lilac tree. Its flowers are cream coloured to white, assuming a stooping position, flowering at a later age. One of the characteristics of the specie is the peculiar angle at which the branches emanate from the tree trunk.

When harvesting time comes, a sharp line is drawn in treatment of pharmaceutical and factory bark. For both varieties the trees are uprooted, the bark then being collected of root, stem and branches separately.

The Pharmaceutical bark is mainly secured from the Succirubra variety and as its value is increased considerably by leaving its *periderma* or leather cork intact. This bark is carefully separated from the tree trunk, the bark being loosened with a horn knife, then rolled around cane-parts and giving pipe like contraptions, not unlike cinnamon pipes.

The factory bark or Ledgeriana Cinchona does not get such careful treatment, as it is simply knocked from the trees with wooden hammer or mallet—native women doing this kind of work—then undergoing a drying process in the sun and which is followed by a sirocco heating operation. Then it is crushed and packed in bales, while the Succirubra is packed in cases.

The Ledgeriana probably is the original form of the real Calisaja (or King's kina) having a thick bark, rich in alkaloids, especially in chinine. From this fact the species derives its value for the quinine manufacture.

The bark, after having been pulverized on the plantations, is packed in bales of 180-220 lbs. and as this product is exclusively bought by manufacturers of quinine, it bears the name of factory bark. The chinine content of the Succirubra bark is low, although these barks have a relatively high percentage of alkaloids (especially cinchonine and cinchonidine in addition to some tannic acid) and accordingly lend themselves so admirably to such preparations as Kina tincture, kina extract, etc.

As to the alkaloidal content of all kinds of factory bark we find that the trunk and branch barks have in chinine 7.5%, cinchinine 0.5% and amorphous alkaloid 0.6%.

Root barks have in chinine 5.5%, cinchonine 1.5%, cinchonidine 0.8%, kinidine 0.5% and amorph. alkaloid 1.5%.

Renewed barks, chinine 7.5%, cinchonidine 0.5%, cinchonine 0.6%, amorphous alkaloids 0.7%.

The alkaloid content of Succirubra bark is chinine 2.4%, chinidine 0.05%, cinchondinine 1.5%, chinonine 3.1% and amorph. alkal. 0.7%.

The actual factory procedure could be summed up in very few words. The bark having arrived at its destination in the very simple factory, it is cleaned and freed from dirt, and other foreign matter, then it is dried in ovens, under fairly high temperature, ground and packed, while a trip through the Bandoeng quinine factory leaves one's lips with a bitter taste from the dust that permeates the atmosphere.

The kina bark as we all know derives its value from the therein contained alkaloids: First, the Chinine; second, the Chinidine (C_{20} H_{24} N_2)O_2; third, Cinchonine; fourth Cinchonidine (C_{19} H_{22} N_2 O); as well as from the chemical compounds: (a) neutral sulfate, sulphas chinine, (b) hydrochloric acid, compound hydrochloras chinine, (c) acid sulphuric acid, bisulphas chinine. Of the chemicals, a and c are by far the most important, especially the neutral sulphuric acid chinine.

Now for the separation of the four first named alkaloids, thus in the first place of the chinine, there are three groups of methods:

First, the line method, by which unslaked lime in preparing the powdered dust is used and extracting this again with parafine or benzol.

Second, the acid method, that is extracting the bark with cold diluted hydrochloric acid.

Third, the ammonia method, by which the bark is treated with a mixture of ether alcohol and ammonia.

Of all these methods, the lime method is the most generally applied.

So in the manufacture of the quinine we can distinguish really two subdivisions: (a) the extraction; and (b) the separation and actual refining process of the chinine. By the former, the bark is pulverized mixed with lime, milk and lixivium, thereby releasing the alkaloids. Then the solution is extracted again with a mineral oil, in which the alkaloids are made to dissolve. By the latter method, the separation, refining and purifying process, the forenamed mixture is being slaked with dilute sulphuric acid, whereby the acid chinine sulphate dissolves. This solvent now is being purified by filtration with an animal carbon and then neutralized by soda and the sulfate is released. The product then is freed of all additional alkaloids.

Pharmaceutical Promotion

H. Sheridan Baketel, president of Reed and Carnrick, was re-elected president.

THE highest spot reached in the annual meeting of the American Pharmaceutical Manufacturers' Association held at Hot Springs, VA., came in the address of Charles Wesley Dunn, counsel to the association, and the dominating figure in its direction. Mr. Dunn's most impressive remarks were with reference to the Food and Drugs Act and the Pharmacopoeia. With reference to the Food and Drugs Act, Mr. Dunn stated that it was unconstitutional first as to section 7 which permits the admission of substandard articles. This section, he said was too vague and could be used in a discriminatory manner.

The law is also unconstitutional in the fact that it recognizes in advance all revisions of the Pharmacopoeia as the standards under which the law shall be administered. By adopting the Pharmacopoeia as the standard before the Pharmacopoeia is written, Mr. Dunn stated, the law passed the power to make law to an agency which is not part of the government. This is in violation of the constitution.

As to the manner of correcting this situation, Mr. Dunn gave the opinion that it would be better for the industry and the public to have the government draw up the Pharmacopoeia in co-operation with the two professions affected—pharmacy and medicine. He stated that the conditions that exist in the drug industry were the only ones in which an industry set up its own standards and then presented them to the government to enforce. He stated that if such a method were proposed in the food industry there would be a public howl to change conditions.

Mr. Dunn also favored the passage of an amendment to the Food and Drugs Act which would give the Department of Agriculture control of advertising copy, displacing the Federal Trade Commission in this respect. Mr. Dunn is of the opinion that it is far better for the drug industry to have one government bureau regulating both labels and advertising, since the two should be in complete accord if competition is to be on a plane that will promote the best interests of the industry. The amendment in question is a much more satisfactory method of procedure than is suggested in the Smoot Bill, and much better than that found in the present conduct of the Federal Trade Commission. At present, stated Mr. Dunn, the Federal Trade Commission litigation takes a long period of time and is frightfully expensive.

The pharmacopoeia should be written by the government to correct the unconstitutionality of the Food & Drug Act, says Charles Wesley Dunn.

The matter of business concentration was also discussed by Mr. Dunn, who pointed out its advantages and its weaknesses.

Dr. H. Sheridan Baketel, president of the association, called attention to the fact that 90 per cent. of the medical products sold to dispensing physicians were made by members of the association. He quoted a survey made by "Medical Economics" to show that 64 per cent. of the physicians dispense to some extent, and 23 per cent. dispense exclusively. Said Dr. Baketel:

"An interesting feature is noted in the fact that in the large cities more than 50 per cent. of the physicians dispence to some extent.

"Of the physicians in communities of less than 5,000 population, 78 per cent. dispense to some extent at least, and 41 per cent dispense exclusively.

"In communities of from 5,000 to 25,000 population, 64 per cent. dispense to some extent at least, and 19 per cent. dispense exclusively.

"Of the physicians in communities of from 25,000 to 100,000 population, 63 per cent. dispense to some extent at least, and 15 per cent. dispense exclusively.

"In communities of more than 100,000 population, 52 per cent. dispense to some extent at least, and 10 per cent. dispense exclusively.

"Of the physicians in the United States in practice less than ten years, 56 per cent. dispense to some extent at least, and 11 per cent. dispense exclusively.

"Of physicians in practice ten to twenty years, 58 per cent. dispense to some extent at least, and 16 per cent. dispense exclusively.

"Of physicians in practice from twenty to thirty years, 69 per cent. dispense to some extent at least, and 27 per cent. dispense exclusively.

"Of physicians in practice more than fifty years, 66 per cent. dispense to some extent at least, and 34 per cent dispense exclusively.

"Only thirty-six out of every hundred physicians in the United States do not dispense at all.

"Of all the physicians in the United States, only 23 per cent. claim to dispense less than they did five years ago. The remaining 77 per cent. dispense either the same as they did five years ago or more.

"Of the dispensing physicians, 76 per cent. charge for all or some of their medicines; 34 per cent. charge for all medicines, and 24 per cent. for none.

"The result of this survey indicates that the houses which are established primarily for the purpose of serving the dispensing physician have a very large field in which to operate."

The outstanding feature of the past year, stated Dr. Baketel, was the formation of a permanent committee to confer with the Department of Agriculture upon pharmaceutical labeling problems. The committee is composed of R. Lincoln McNiel, J. H. Foy, R. M. Cain, and R. R. Patch, all past presidents of the association.

Dr. Baketel outlined the plan of the committee:

Briefly the plan of the labeling committee is as follows:—

(a) The committee will review the pertinent labeling statements by the department and by Dr. Durrett, in his addresses, and prepare a concise and itemized digest, for the information of pharmaceutical manufacturers. The digest will be subject to the department's review and approval.

(b) The committee will confer with the department upon further questions of pharmaceutical labeling, for their due and announced decision. One conference will be held prior to the next annual meeting; others will be held, upon occasion.

"This plan was approved by both Dr. Dunbar and Dr. Durrett. On February 15, 1930, Dr. Durrett wrote:—

" 'The steps which you propose for your committee to take seem reasonable and logical. As their work progresses I have no doubt that additional work will, in the natural course of events, be developed. This Administration stands ready to participate in any way which will promote the proper labeling of medicinal products.'

"On March 17, 1930, Dr. Dunbar wrote:—

" 'I took occasion to review this plan in your letter of February 8, and concur in the statement made to you in Dr. Durrett's letter of February 15, that the steps which you propose seem reasonable and logical.

"'It is our honest feeling that the formation of this committee marks one of the greatest advances yet made in the campaign of this association to work in active co-operation with the Department of Agriculture, and the medical profession. The interests of the physician and the manufacturer are closely interwoven. The department possesses supervisory powers which are, we believe, employed to the best interests of all concerned. Consequently, with the union of forces, as we observe in this triad, we feel that the future augers well for our industry.'"

As to the future conduct of the association, Dr. Baketel offered nine suggestions that proved of more than ordinary interest to the members of the association:

1. That at the next annual meeting one entire session, either morning or afternoon, be devoted to the associate members; that their representatives on the board of directors have the sole responsibility of preparing a program which would meet the requirements of the associate membership.

2. That hereafter the semi-annual meeting of the active members be held annually in the city of Washington, and that the research board convene at the same time and place. This will permit closer and more effective contacts with governmental officials, and will enable the industry as well as the government to so thoroughly understand each other as to minimize conflict.

3. That the association make the labeling committee the major action next year, which, as the first year, is especially important.

4. That all members clear their labeling problems through the labeling committee.

5. That the research board make a study of "New Uses for Old Drugs."

6. That the association appoint a special committee to discuss the State narcotic law and the Federal law with the American Medical Association.

7. That the association appoint a special committee to effect a concrete plan of closer co-operation with the medical profession in order that our research may be directed along lines in which physicians are interested, and that our publicity be in accord with the broadening ethics of medicine.

8. That the association consider with the Department of Agriculture the question of placing a research chemist in the department's laboratory upon a fellowship basis.

9. That the association take every means to keep the slogan, "To keep well, consult your family physician," in the forefront of publicity so that it may be a slogan in fact, as well as in name.

It may be well to expand my thought of a research chemist for a moment. This position should really be a fellowship, the fellow to be engaged in pure research. There should be no trade dictation of any sort whatsoever. It would be his function to take up matters of scientific interest which might be pointed out either by the government or by ourselves, and carry them to a successful conclusion, but in no way would the association dictate or attempt to dominate his activity. It is by interesting ourselves in some of the great problems that confront the medical profession and the drug industry that we can best serve our purpose.

Interest was aroused by the report of Bern B. Grubb, chairman of Committee on Trade and Professional Co-operation, which stated that a movement had been started in Indiana to induce the physicians of the country to stop dispensing. It was suggested that close watch be kept of the development of the movement so that such action as may be necessary might be taken at the proper time.

The election of officers resulted in the re-election of H. Sheridan Baketel to the position of president; S. DeWitt Clough, Abbott Laboratories, was chosen First Vice-president; H. B. Johnson, Zemmer Company, was chosen second vice-president; Frank Mallet was re-elected treasurer, and John E. Searle was re-elected secretary.

The antiseptic action of hexamethylenetetramine is attributed to the liberation of formaldehyde and non-decomposed hexamethylenetetramine is inactive. The liberation of the disinfectant compound from hexamethylenetetramine depends on the hydrogen ion content of the suspending liquor. In alkaline solution no formaldehyde is set free and only a very little in a neutral liquid. Inasmuch as a neutral or slightly alkaline reaction is normally encountered in animal tissues it is not possible to expect the liberation of formaldehyde from hexamethylenetetramine in the tissue themselves. It is only in acid urine that hexamethylenetetramine can exert an antiseptic action. Formaldehyde has accordingly not been set free in the blood or in serum nor in the cerebro-spinal fluid in the normal state.

Acids have been administered to produce acidity so that hexamethylenetetramine can exert its action. This has led to the formation of derivatives of the drug with acids, amongst which may be mentioned those formed with hydrochloric acid, phosphoric acid, benzoic acid, boric acid, formic acid, salicylic acid, citric acid and gallic acid. One compound which besides acidifying the urine also liberates formaldehyde is hexamethylenetetramine anhydromethylene-citrate. The activity of this substance is greater than that of hexamethylenetetramine itself. Therap. Berichte, 1929, number 9, page 343.

Williamson Bill and the Supreme Court

The point has been raised that the recent Supreme Court decision stating that termination of alcohol permits by regulation is invalid takes much of the sting out of the Williamson Bill. As a matter of fact the decision has changed matters very little if at all, for the Prohibition Department still throws the burden of proof upon the permittee.

MANY wild ideas and rumors have been circulated regarding the importance of the recent decision of the United States Supreme Court with reference to industrial alcohol permits. The Supreme Court decided in the case of the Galeno Chemical Company and D. P. Paul that the Prohibition Bureau had no right to terminate by regulation existing permits to use specially denatured alcohol.

The case in question is well-known. Prior to 1927 permits to use specially denatured alcohols were granted for an indeterminate period and could be put out of existence by surrender on the part of the holder, or by revokation for cause on the part of the department. Then the department decided that permits would thereafter be issued on a yearly basis, and would be renewed each year if the department saw fit to renew them. All permits were, therefore, terminated by a new regulation of the department and all permits thereafter were placed on a yearly basis. New applications were filed for the yearly permits, but not all the new applications were granted. This is the point on which the case was fought. The companies in question were not granted permits under the new regulation. They questioned the right of the department to terminate the old permits by regulation. The decision is in their favor.

As a result of this decision, many were of the opinion that the passage of the objectionable Williamson Bill would be largely nullified. If these old permits of indefinite period came back into force, the Department of Justice would not have any opportunity to review them since they would not come up for renewal, but would merely remain in force. In such a case, the Department of Justice would only have control of such permits as have been granted to manufacturers who held no permit prior to 1927.

But the case does not seem to be so cut and dried, and in fact it appears that the Williamson Bill is just as effective as it was expected to be although the decision in question looked pleasing enough at first blush.

When asked by DRUG MARKETS whether or not these old permits with no time limitations were now in force or could be revived as a result of the decision of the court, the Prohibition Department answered in its usual way: "Each case will be decided on its merits." In other words, if any consumer wants to go back to this old permit he will have to fight to get it back. There will be no wholesale return of permits as a result of the decision, but if a consumer wants his old permit back he will have to prove that he is entitled to it now as he was then. And there appears to be little doubt that the request to revive an old permit will be considered much in the same manner as an application for a new one, and most likely the Department of Justice will have its full say on all these permits after July 1.

This attitude is no different from the other actions of the department which always endeavors to take the step and thus place the burden of proof upon the permitee. The decision that permits can not be revoked for any other reason than for cause simply means that the department will revoke a permit, state the cause, and then sit back until the permitee brings the department into court in an effort to prove that the stated cause is not justified by the facts.

Counter Currents in U. S. P.

(*Continued from page 553*)

never be able to agree, and that at least one might be expected to side with the pharmacist group on the committee on almost any proposition, thus constituting the necessary two-thirds of the committee. But there were some of the opposition who said there was even less prospect of the 33 pharmacist members of the committee agreeing, and pointed out that with President Bastedo, there were really 18 physicians on the committee. A prominent Cook man said simply that if the doctor members could not agree an article will not go into the Pharmacopoeia. He was quietly confident that with 17 or 18 doctor members of the committee, not to mention possible pharmacist support they might count upon in some circumstances, the physicians would still be able to exercise considerable veto power at least, if they choose, in the Revision Committee.

That the new rules and personnel would probably tend to liberalize admissions to the Pharmacopoeia was the view of a number of prominent delegates. Dr. Hilton thinks that more pharmaceutical necessities will probably be admitted than formerly, on the basis of use. On the other hand, Dr. DuMez was inclined to think that fewer additional preparations will be included in the new Pharmacopoeia; in other words, that it will be harder for new admissions to be brought about. The ultimate outcome lies in the lap of the new committee.

There was a restatement of the pharmacopoeial body's position in the resolution of Dr. Walton that "a definite statement be made in the preface or other suitable portion of the U. S. P. XI that proprietary medicines are not admitted to the U. S. P," which came before the convention with the endorsement of the recent conference in Baltimore of pharmaceutical law enforcement officials. Characterized by some as a slap at the proprietary interests, this resolution was not adopted, however. Proprietary people asserted that proprietaries were not in the U. S. P. anyhow and that there was no attempt to get them in. On the other hand, there was some complaint that occasionally manufacturers assumed the right to place their own name, such as Jones or Brown, on some U. S. P. preparation.

Amendments to the constitution of the U. S. P. convention were proposed to admit the American Pharmaceutical Manufacturers Association and the Federal Wholesale Druggists Association to membership, but not acted upon favorably. Objection was made that the former included patent medicine manufacturers. This was denied by the president of the A. P. M. A., who, however, admitted that his members sell directly to physicians. This was declared by another participant in the discussion to be "unethical", and the question of admitting these two associations to membership was referred to the Board of Trustees, which later submitted a favorable report, that was, however, rejected by the convention.

Dr. Cook, in his report as chairman of the Revision Committee, to the convention, expressed the opinion that "a solution of the ether deterioration problem seems possible" through combined research, and added that "the agreements upon standards for hypodermic tablets is another illustration of the wise policy of this age in which the real background of business is professional in spirit and in which the interest of the consumer is the first consideration." Dr. Cook referred to the "unique and ideal character of the U.S.P. Revision organization" as being illustrated by the manner in which "every related department of the government is collaborating" in the work of revision. He mentioned specifically the Hygienic Laboratory, the Food and Drug Laboratory, the Bureau of Standards, Public Health Service, and the surgeons general of the Army and Navy. Dr. Cook remarked after all meetings were over that the most significant thing was the "fine spirit of cooperation" that was manifest.

Dr. Reid Hunt, the retiring president, in his address to the convention, defended the physicians for the number of drugs they prescribe. He said the A. M. A. publication called "Useful Drugs" lists 365 such drugs, after consulting the U. S. P., N. F., and other sources. He said there were 258,000 organic chemical compounds a year or two ago and that they are being added to at the rate of twenty per day, and it was intimated that there is not pharmacological evidence of the value of more than a few thousand of these. "Little is being done to test these new compounds for possible medicinal value," said Dr. Hunt, "and at the present rate it will require perhaps a millennium for the medical profession to examine what the chemists already have to offer."

"Empiricism gave us some drugs and poisons with a highly specific action:" said the retiring president. "Quinine and emetine ferret out and, under favorable conditions, destroy, the organisms of malaria and amoebic dysentery; atropine paralyzes the ending of parasympathetic nerves; epinephrine stimulates the endings of the sympathetic; cocaine paralyzes the endings of sensory nerves, etc."

In concluding Dr. Hunt said among other things:

"It is difficult to avoid the conviction that when the historian of the future discusses the present status of medical research in the United States, when he notes what the study of drugs has already meant to the human race, and when he thinks of the quarter of a million or more untested preparations on the chemists' shelves, the present will seem one of the darkest periods in medicine; he may even find a parallel between the attitude of some of those now responsible for the trend of medical research and the complacency of Percival Pott who in 1779 thanked God that his contemporaries (who had ether but did not use it) were not cruel like their predecessors."

Selling to Argentina

Of the Latin-American countries, none is more important to exporters of drug products than Argentina. Mr. Gracey tells facts that should interest those now selling this country, as well as those who contemplate entering this country.

By Wilbur T. Gracey

COMMENTING on our casual consideration of the countries that lie to the South, Irving Cobb says that "our ignorance touching on their culture and their institutions and their possessions is as colossal as it is criminal—and they, on the other hand, know entirely too much about us along erroneous premises."

Before the war our trade with the Argentine was unimportant comparatively, and it was only on the outbreak of hostilities that we made concerted efforts to secure trade which had been in the hands of the warring nations. Like a ripe apple it fell into our hands, inefficient hands of rag-tag and bob-tail sent to secure it. Salesmen hastily commandeered were careless and in some cases unscrupulous with the result that the United States obtained a bad name, which still remains in some places as an unfortunate aftermath.

In one of his articles Mr. Cobb quotes one of Argentine's prominent Senators who told him that "to-day, high types of gentlemen represent American houses as resident managers. Our people know now that the word of the man on the spot may be depended upon; that the delivered commodities will be up to sample.

"What is the result? Since the war the volume of our economic dealings with European countries has increased materially, but the volume of our dealing with the United

Ewing Galloway

Business scene in Buenos Aires

States has increased tremendously, and proportionately is increasing every day. The American industrialist, who is willing to study our needs and cater to our merchandising principles, is assured of an interest in his wares and a hospitable reception for his salesmen and has every prospect of strengthening a mutually profitable relationship. You are selling us a lot of your products—you ought to be selling us more, though, than you do sell."

Argentina with an area of 1,139,196 square miles has a population of approximately seven and three-quarter millions, of which one and three-quarter millions are "foreigners,"—Spanish, Italian, French, British, American and other nationalities. The remaining six millions are chiefly *mestizos*, a mixture of races resulting from the intermarriage of Spanish and Portuguese settlers with the natives.

The country is rich and prosperous; its per capita wealth exceeded by few other countries; its capital—Buenos Aires—the sixth largest city in the world, the second Latin city on earth, and the greatest city in Latin America.

It is estimated that the annual per capita consumption of imported goods is between $45 and $50. Both every day necessities and expensive luxuries find a market, and the Argentine is becoming one of the major outlets for American manufacturers.

Most of the Argentine is in the temperate region, though its climate varies considerably, corresponding in range to conditions such as would be found between Northern Canada and the Panama Canal. Cold, temperate and tropical.

The statistics in regard to drug imports are difficult to give, largely due to the fact that they are not compiled and issued as promptly as in the United States, and also because there are so many different products under a variety of classifications.

That the trade is constantly growing is shown by the following figures which show the exportations of chemicals from the United States:

1899	$ 449,000
1910	2,080,000
1911	2,398,000
1912	2,801,000
1913	2,793,000
1914	2,088,000
1922	4,116,000
1923	5,311,000
1924	5,027,000
1925	5,982,000
1926	6,625,000
1927	6,693,000

These figures cover, in addition to the crude drugs, medicinal and toilet preparations in which the drug trade is interested, also such items as naval stores, pigments, paint and varnishes, which would account for about a half of the total.

The exports for 1928,—the last available statistics—show the following items:

Industrial chemicals and chemical specialties	$2,748,972
Insecticides, disinfectant, deodorants, germicides, exterminators, etc.	1,265,876
Medicines for internal use	717,147
Medicines for external use	86,835
Other non coal-tar medicants and pharmaceutical preparations	27,478
Bulk goods	267,454
Water softeners, purifiers and boiler and water compounds	200,433
Soap, toilet and fancy	33,024
" laundry	19,716
" others	152,767
Perfumery	5,938
Talcum and other powders	58,773
Cream, rouge and cosmetics	31,096
Dental cream	21,232
Other dentifrices	52,834
Other toilet preparations	48,615
Petroleum jelly	52,779
Shoe polish	41,790
Leather dressing	20,226
Floor wax, furniture and auto polish	21,945
Photographic goods	1,013,441

The usual way of promoting trade in the Argentine is either by the establishment of agencies supervised by American representatives—and men should be secured for this purpose who are familiar with the Spanish language and the Latin American point of view—or by securing a capable and well established local representative to handle your line. The securing of a suitable local representative is the principal problem as the duties of such an agent are difficult and varied. He must keep in touch with the local wholesalers and retailers; see that there are no infringements of trade-marks and watch over your interests in a hundred different ways. His chief qualifications will be reliability, knowledge of the market, and familiarity with the language and the buying customs, likes and dislikes of the people.

Knowledge of your product is probably not as important as the point of view of the purchasers, and this is a point that is too easily overlooked by the American manufacturer. We are inclined to believe that because a man is a successful salesman in the United States, he will also be suitable for Latin America. Too often we send men who try to sell Latins by American methods, and meet with complete failure.

Many a good order is lost by the "peppy" salesman trying to put something over on the Argentino, whom he looks down upon because he does not do business in the same way as in the United States; he forgets the necessity of unending courtesy. The Argentino is a keen buyer, probably equally as keen as the man at home, but he handles his business problems more leisurely, and gives more time and thought to the minor courtesies of life. The salesman who is familiar

(Continued on page 564)

Progressive Proprietors

OF MORE than passing interest was the recent meeting of the Proprietary Association. From the president's address down, the meeting continually impressed the visitor that the various officials and sections of the association realized more than ever before the real problems that faced the members. And from the statements of these officials and section heads, the fact was clearly indicated that the association was quite correctly headed in its methods of meeting these problems.

Frank Blair, re-elected president for the sixteenth term, discussed very frankly many of the factors that have been menacing the trade. Although the Smoot Bill holds no charm for Mr. Blair or his association due to its giving advertising control to the Food and Drug Administration, Mr. Blair clearly conveyed that the members of the association had very little to fear from reasonable advertising censorship.

Said Mr. Blair:

"The Federal Trade Commission, the Better Business Bureau, and the various groups of those who oppose us for commercial reasons, have carried on the usual, and sometimes unusual, activities. Little of this has affected our membership. We are proud to say that while these activities have been detrimental to the business of some manufacturers, that between 80 and 90 per cent. of the merchandise sold for self-medication, and which is manufactured by members of our association, has not been affected. Therefore the trouble arises among those manufacturing some 10 to 20 per cent. of the medical merchandise of the United States. Reading the lists of manufacturers, against whom cases have been made, you will frequently not recognize a single name. Manufacturers who are members of this association and who have had the advantage of consultation with the requirements' committee, as well as participation in the deliberations of the conventions, have avoided trouble."

There appears to be a firm determination on the part of the association to attempt to justify its label claims rather than to lie down and accept the rulings of the Food and Drug Administration where scientific facts are involved. With this in mind, the two-year-old Scientific Section has been extremely active. No less a personage than Dr. Edward C. Merrill, United Drug Company, is now the active head of this section, following the insistence of Philip Heuisler, Emerson Drug Company, that he be relieved of the work.

The association as usual is throwing the full weight of its legal and technical talent behind any seemingly unimportant matter antagonistic to any small part of its members' business. It is by fighting the smaller moves with full weight and vigor, that this association prevents the progress of antagonistic legislation, opinions, and decisions. This year the association is vitally interested in fighting legislation antagonistic to veterinary remedies, Mr. Blair stating that "It is only a step from veterinary to human remedies", which he enlarges upon as follows:

The perennially elected leader of proprietary interests—Frank Blair.

"The veterinary group has had to face many problems during the past year. Of these not all have been satisfactorily worked out. Your officers, however, wish to emphasize the importance of this group. Some of the manufacturers of human remedies do not seem impressed with this importance. You have failed to recognize that it is only a step from the veterinary to the human remedy, and that very frequently laws and regulations are put into effect which at the time seem to effect only veterinary remedies, but which latter are found to affect human remedies as well, or these laws and regulations are the forerunners of laws and regulations affecting human remedies."

An evidence of the manner in which the Scientific Section of the association is progressing is given in the type of addresses that were given before the section. Vitamins was the main theme, with Dr. Charles W. Hooper, H. A. Metz Laboratories, given an illustrated talk on vitamins in food. Dr. Hooper entered into a full discussion of the dietetic value of the vitamins and from what foods they were obtainable. Following this, Dr. P. W. Hawk, Scott & Bowne covered the subject of cod liver oil in a most complete manner. He spoke of a comparison of the male and female cod, from which it was concluded that there existed no appreciable variation in vitamin potency, both running over 1,000 units of vitamin A.

With reference to old livers, Dr. Hawk stated that vitamin potency was not affected, but the free fatty acids had increased materially. As to the colorometric determination of vitamin A by means of antimony trichloride, Dr. Hawk could report no satisfactory results.

With reference to more economic production of cod liver oil, Dr. Hawk stated that the centifuge is now being used to get a greater percentage of the oil out of the liver. This method amounts to a saving of about $2.00 per barrel of oil produced, which, on a basis of 100,000 barrels from Norway, would mean a saving of $200,000.

Another section of the Proprietary Association formed only two years ago, but making remarkable progress is the Foreign Trade Section. The association is making real progress in stimulating interest in foreign trade among its members, and the members are finding this trade of great value. For several years past, Thomas W. Delehanty, Assistant Chief, Drug and Chemical Section, Bureau of Foreign and Domestic Commerce, has attended the convention and placed very illuminating facts regarding foreign trade before the members. The association has within the past year appointed a former member of the staff of the Bureau of Foreign and Domestic Commerce to keep the membership completely posted at all times regarding developments in foreign countries that might affect the trade of the members. This is understood to be the first such appointment made by any trade association within the drug trade at least.

With reference to the appointment of Mr. Viault, Mr. Blair says:

"The new sections of the association, 'Foreign Trade' 'Section on Scientific Methods and Practices,' and 'Veterinary,' have not been idle. Your foreign trade section during the past year secured the services of Albert Viault, formerly identified with the foreign trade group in the Bureau of Domestic and Foreign Commerce, a thoroughly experienced, capable active and industrious man, a lawyer, a business man, and conversant with our difficulties and our business troubles in foreign lands. Those of you who are interested in foreign trade have of cousre followed his bulletins with great interest. We consider that when the foreign trade section succeeded in securing Mr. Viault's services they added greatly to the strength of the organization, and we want you to understand that they have secured his full time services, he devoting his entire time to the work of the association."

Other signs of progress are not lacking in this lively group, and one of these signs was the election of Robert Lund, general manager, Lambert Pharmacal Company to the Executive Committee as a new member. Beside Mr. Blair, whose successful conduct of the affairs of the association is a source of admiration and wonder, other officers who have long served under Mr. Blair were re-elected. Thus E. K. Hyde, Mentholatum Company, remains first vice-president; J. H. Howe, A. H. Lewis Medicine Company, remains second vice-president; Charles P. Tyrell, Syracuse Medicine Company remains secretary; E. F. Kemp remains general representative.

Selling to Argentina

(*Continued from page 562*)

with this latin point-of-view will be more useful to you than the high-powered type.

At the present time the United States supplies about 20% of the imports of medical goods, and should sell more.

Terms of credit granted in the Argentine trade range from 30 to 180 days, and in fact some European firms grant even longer terms or sell on open account. The extension of such long credits is another reason for using every care in the selection of your representative, and necessitates careful investigation of the financial standing of customers.

The diseases prevalent in the United States are also found in Argentina, with perhaps more cases of tuberculosis and a large percentage of venereal diseases.

Quite a number of American firms manufacture their medicinal products in Argentina in order to avoid the high customs duties,—and this is also the case with French and other European firms. These are usually manufactured by local firms, from imported raw products, using American or foreign formulas, and on a royalty basis. The ultimate manufacture of any product in the Argentine should be considered when entering the trade.

All preparations sold in the Argentine must be analysed and approved by the department of health, and certificates issued. Over 500 medical products originating in the United States have already been so approved. It is important that this certificate should be secured before the goods are placed on sale, and if a representative is appointed, he should be given authority to secure such certificates under power of attorney.

There is very active competition from French, British, German and Spanish concerns in Argentina, and this must be taken into consideration.

Some of these foreign firms are firmly intrenched, and manufacture their products under a pharmacist holding an Argentine certificate, which is one of the requirements.

Any American manufacturer contemplating entering this market should make very careful investigation of conditions before doing so. He must expect that his first few years will show little profit, in fact it is probable that losses will appear for some time, possible for several years, but the possibilities of the market are so attractive, the business is increasing so rapidly, and the opportunities are so intriguing, that he may safely estimate that the future profits will offset the temporary losses, providing his marketing is planned after careful consideration of every angle.

(*Concluded on page 593*)

The Law on Foreign Corporations

A matter of increasing importance to drug trade manufacturers has been quite completely discussed by the Counsels of two main trade associations.

THE increasing importance of complete knowledge of the conditions that can be imposed upon corporations by states other than the state of domicile, of corporations, is clearly indicated by the fact that the general counsels of two major drug trade associations devoted the main portions of their annual reports to this subject.

Harry B. Thompson, counsel of the Proprietary Association, and Horace Bigelow, counsel of the American Drug Manufacturers' Association, both at the recent annual meetings of their groups, covered the subject most completely. The first point with regard to foreign corporation laws is why, when, and how the state can impose them. With regard to the right of the states to invoke such laws Mr. Thompson says:

"If a corporation is engaged in business in a state other than that of its domicile, it is only by permission of the state. The state may impose any conditions that it may see fit to impose. These conditions may be extended to the point of prohibiting entrance into the state. The only limitation upon this power is to be found in the constitutions. The people of a state may amend their own constitution. Therefore, the only real limitation is in the Federal Constitution.

"If there be nothing in the Federal Constitution contravened by the exercise of the power of the state limiting the activities of a foreign corporation, there will be no limitation upon such power. The state may enact its own conditions and impose its own terms for the doing of business within that state by a foreign corporation.

"Under the Federal Constitution the power to regulate commerce among the states is vested in the Congress of the United States. A state may not burden interstate commerce. Any enactment by a state with respect to foreign corporations relates alone to intrastate or domestic business done by such corporation within the state. The rule is that as to business which is wholly intrastate the state has exclusive and unlimited control. It has no power to burden interstate commerce. If business is domestic, the state may fix the conditions upon which the corporate franchise shall be exercised therein. If it is interstate, the state may not burden it.

"Every state in the Union has enacted a foreign corporation act. These acts fix the terms upon which the corporate powers of a foreign corporation may be exercised in that state. These conditions include, among other things, domestication of the foreign corporation, the payment of a franchise fee, the appointment of a resident agent, and the payment of an annual franchise tax. Several of the states vigorously enforce the provisions of their foreign corporation acts. Some with less vigor. Sooner or later all of these states will vigorously enforce their acts.

"Strict enforcement of the foreign corporation acts is being followed by the enactment of income tax laws. The Imposition of the privilege tax and the annual franchise tax has shown to the states a source of revenue. Income taxes are now being added to the other taxes imposed upon foreign corporations. Corporations are, therefore, vitally interested in the question of what constitutes the doing of a domestic business and what business is interstate."

The next point in question is to determine just when a corporation is conducting foreign state business and just how this is determined. Mr. Bigelow's report sets this information very clearly:

"Whether a foreign corporation is doing an intrastate or an interstate business in a given State is primarily a question of fact and not of law, and the question of course depends upon the facts and circum-

stances of each particular case. The Supreme Court of the United States has repeatedly held that a foreign corporation is not doing an intrastate or local business in a given State where it merely has an agent or salesman, who solicits orders within the State and forwards such orders to the office of the foreign corporation outside of the State, where such orders are subject to acceptance or rejection and if accepted the merchandise is shipped from outside the State direct to the purchaser. Such transactions have been held to be interstate commerce and not liable for State taxation. However, if a foreign corporation sells its goods to wholesale dealers who in turn sell to retail dealers, and the foreign corporation sends a salesman into the State who takes orders from retail dealers and turns them over to the wholesale dealer for filling, such transactions have been held to constitute a local intrastate business, and render the foreign corporation liable for taxation for doing business in the State in which the goods were sold.

"The case of Cheney Brothers vs. Massachusetts, 246 U. S. 147, decided by the Supreme Court of the United States, reviews a number of transactions by several foreign corporations in the State of Massachusetts, holding that some were liable for the privilege and license tax imposed by the State of Massachusetts, and that others were not. This case like all others shows clearly that it is wholly a question of fact and that no general rule or law can be announced which would govern every case. In the case above referred to, the Supreme Court of the United States in deciding the status of the North Western Consolidated Milling Company said:

" 'This company was incorporated under the laws of Minnesota, operates flour mills there, and sells the flour to wholesale dealers throughout the country. It has an office in Massachusetts where it employs several salesmen for the purpose of inducing local tradesmen to carry and deal in its flour. These salesmen solicit and take orders from retail dealers and turn the same over to the nearest wholesale dealer, who fills the order and is paid by the retailer. Thus the salesman, although not in the employ of the wholesaler, is selling flour for him. Of course, this is a domestic business,—inducing one local merchant to buy a particular class of goods from another,—and may be taxed by the State, regardless of the motive with which it is conducted.'

"Adapting the above quotation to the business of the members of this Association, it can be said fairly definitely that if you sell your products to a wholesaler in a given State and employ a salesman who travels in that State and obtains the orders for your products, which orders when obtained are turned over by the salesman to the wholesaler in that State for filling, you are doing business in that State. In other words, you are inducing one local merchant to buy a particular class of goods from another, and the transaction may be taxed by the State regardless of the motive with which it was conducted. Some State authorities are relying upon this proposition to compel foreign corporations to pay local taxes in States in which such foreign corporations do not maintain offices or branches. Of course if a foreign corporation maintains an office or branch in a State to which and from which it ships its merchandise, and where orders are taken, accepted and filled, it is doing business in that State. On the other hand, a foreign corporation may maintain an office in a State which office is the headquarters for its salesman and where orders are received but forwarded to the office of the corporation outside of the State where they are filled and the goods are shipped direct to the purchaser. In a case of this kind, the foreign corporation would not be doing business in the State, and consequently would not be subject to local taxation. Practically every State has a statute providing substantially that a foreign corporation doing a local or intrastate business in the State, and not duly registered, cannot maintain a suit in that State.

"During recent years several States have attempted to compel foreign manufacturers who do a turnover business within the State to register, regardless of whether those manufacturers maintain an office or branch therein. By a turnover business is meant inducing one local merchant to buy the manufacturers merchandise from the stock of another merchant within the State."

Both Mr. Thompson and Mr. Bigelow have in some detail the special case of the State of Tennessee, in which some very interesting developments have taken place, clearly indicating the limitations of the power of the state in foreign corporation taxation.

Mr. Bigelow states:

"During the past year or two the Attorney General of Tennessee, attempted to compel several of our members to register under the then effective foreign corporation laws of that State, because they were doing a turnover business in the State. It was contended that the law requiring the payment of an annual franchise tax in Tennessee was not constitutional because it placed a burden upon interstate commerce in that it provided for the tax based on the authorized capital stock of the foreign corporation. Similar laws have been held unconstitutional by the United States Supreme Court, and more recently, in the cases of the Air-Way Electric Appliance Corporation vs. Day, 266 U. S. 71, and Cudahy Packing Company vs. Hinkle, advance opinions 269, Supreme Court Reports, Volume 49 page 204.

"However, at the recent special session of the Tennessee legislature, two laws were enacted, affecting foreign corporations. The first law, House Bill No. 87, requires all foreign corporations doing an intra-

(Continued on page 591)

SCIENTIFIC ADVANCES

A Review of Patents

UNITED STATES PATENTS

Esters of Borneols

A process for manufacturing esters of the borneols consists in causing a fatty acid to react upon camphene without the use of a catalyst. The reaction is carried out substantially above room temperature. F. Ulffers, Berlin-Charlottenburg, Germany, assignor, Schering-Kahlbaum, A. G., Berlin, Germany. U. S. Patent No. 1,755,752, filed March 30, 1926.

Borneol esters are made by heating highly concentrated formic acid with camphene in the presence of pyrophosphoric acid. Reaction is carried out at 60° C. Temperature must not exceed 70° C. Excess formic acid is distilled off and reaction product washed. K. Stephan and F. Ulffers, assignors, Schering-Kahlbaum, A. G. U. S. Patent No. 1,755,750, filed March 30, 1926.

Glutaminic Acid

Glutaminic acid is made from sugar residues by treating the starting material with hot concentrated hydrochloric acid, separating the hot solution from any deposited solids and cooling. Then the deposited solids are removed again. The solution is concentrated, cooled to a low temperature and saturated with hydrochloric acid gas. This results in the separation on standing of glutaminic acid hydrochloride from which the acid is liberated. K. Bromig, Frankfort-on-Main, Germany, assignor, Deutsche Gold & Silber Scheideanstalt vormals Roessler. U. S. Patent No. 1,755,683, filed March 22, 1926.

Closure Cap

The closure cap consists of a disc-shaped body of a material capable of being flexed and having portions upstruck to provide spaced protuberances to be gripped and pressed together. This causes upward flexing of the edges of the body. S. J. Smyth, Hawthorne, Calif. U. S. Patent No. 1,755,522, filed July 5, 1927.

Iso-naphthyridin Compound

Iso-naphthyridin is made by treating alpha-chloro-beta-aminopyridin with glycerin and sulphuric acid in the presence of oxidizing agents. C. Raeth, Berlin, Germany. U. S. Patent No. 1,755,515, filed Nov. 10, 1926.

Perfume Bottle Closure

Bottle has a neck provided with cylindrical flange formed around it. An eccentrically arranged spraying opening is formed within flange. A metal cap with an eccentrically placed spraying aperture is placed on top of bottle opening. A washer is embraced by cap and is in contact with flange. Washer has an opening registering with aperture in cap. The latter has a number of embossments bent inwards beneath lower face of flange and bearing against the same to secure a close contact between flange and washer. A pair of these embossments is spaced to form a groove in cap and a stock on neck beneath flange projects into groove between pair of embossments to limit the rotary movements of metal cap. W. Dueskow, Berlin, Germany. U. S. Patent No. 1,755,433, filed Dec. 4, 1928.

Sodium Salicylate

Pure sodium salicylate is manufactured from a solution of the salt containing impurities by the following process. Solution is cooled below 15° C, being made up to dilute to form anhydrous crystals of sodium salicylate at this temperature. The cooled solution is then seeded with crystals of sodium salicylate hexahydrate, causing crystallization of a large proportion of a dissolved salt in like form only. Crystals are separated from mother liquor and washed and dried. A white anhydrous salt is produced without further repurification, this salt being free from tint of color and capable of being dissolved to a clear water-white solution. M. E. Putnam, assignor, Dow Chemical Co., Midland, Mich. U. S. Patent No. 1,755,362, filed April 6, 1923.

Bacterial Enzyme Preparations

This process is concerned with the preparation of bacterial enzymes for proteolytic and amylolytic industrial uses. The steps comprise cultivation of an aerobic bacteria capable of secreting the required enzymes on a culture medium. A substantially constant temperature is maintained. The culture is aerated to an extent less than required for the maximum growth of bacteria in order to moderate the rate of growth of bacteria. When substantial sporulation has taken place, a filtered wort containing in solution small amounts of iron and manganese salts and nutritive for these bacteria is inoculated with the culture that has been developed in this manner. The bacteria are then allowed to develop further in the wort until the latter contains the desired amount of enzymes. A Boidin, Seclin, France and J. Effront, Brussels, Belgium. U. S. Patent No. 1,744,742, filed July 3, 1922.

Treating Cod Liver Oil

Cod liver oil is deodorized by passing the oil at room temperature through a granular active carbon. At the same time a non-toxic and non-oxidizing gas is passed through the oil. The oil is first agitated with an alkali and then the mixture is allowed to settle and the oil is filtered, to remove the foots. Then the oil is passed through granular active carbon while the non-toxic gas is passed through the oil in the opposite direction and at the same time. J. C. Hamilton, Mountain Lakes, N. J., B. H. Thurman Bayonne, N. J., and L. G. Copes, Bayonne, N. J. assignors, Best Foods Inc., New York. U. S. Patent No. 1,745,851, filed July 31, 1925.

Isolation of Physiologically Active Substances

Salts of salt-forming aromatic nitro compounds are used as selective precipitants in the separation and purification of physiologically and pharmacologically active biological materials. The salts precipate these materials and the associated impurities selectively. Thus for example this process is used for separating and purifying antiscorbutic vitamin from lemon juice. The lemon juice is treated with neutral lead acetate and then the precipitate formed is separated. The solution is thereafter treated with basic lead acetate and the precipitate is separated. The last named precipitate is decomposed and the solution, which is obtained in this manner, is finally precipitated with the aid of silver picrate. C. Funk, New York. U. S. Patent No. 1,745,788, filed Jan. 4, 1927.

Organic Mercury Compounds

These compounds, as for example a mercurized phenol, consists in reacting upon various organic compounds such as a phenolic compound, with basic mercuric acetate. M. Englemann assignor, E. I. du Pont de Nemours & Co., Wilmington, Del., filed April 15, 1927.

Durable Soap Creams

Durable soap creams containing highly-concentrated salt solutions possess therapeutic properties. Process of manufacture consists in adding a small quantity of saponin to the salt solution. Then the salt solution which contains the saponin is mixed with over-fattened soap cream in the hot condition. The mixture is stirred until it will cool off. S. Weissbein, Berlin, Germany, assignor, Baeder und Vekehrs A. G., Berlin, Germany. U. S. Patent No. 1,748,533, filed June 23, 1926.

Preservation of Cod Liver Oil

A method of preventing the reconversion of cod liver oil consists in adding to the oil from one hundredth to five per cent of para-aminophenol. This is then a demalflavored oil. W. G. Christiansen, Bloomfield, N. J., F. R. Chappell, Brooklyn, N. Y. and A. E. Briod, Bayonne, N. J., assignors, E. R. Squibb & Sons, New York. U. S. Patent No. 1,745,604, filed Nov. 5, 1927.

BRITISH PATENTS

Organo-Mercury Compounds

Phenyl-mercuric acetate is prepared by heating benzene with mercuric acetate or mercuric oxide and glacial acetic acid, in the presence of a sufficient quantity of an inert solvent boiling above 150° C. to raise the reaction temperature without the use of pressure to the optimum value of about 130° to 135° C. Examples are given of the use of nitrobenzene and 1:2-dichlorobenzene as a solvent. The process is applied to the mercurization of aromatic hydrocarbons in general, the quantity of solvent being such as will raise the temperature to a point above 100° C measured in the liquid. I. G. Farbenindustrie A. G., Frankfort-on-Main, Germany. B. P. No. 325,266, filed Nov. 15, 1928.

Synthetic Menthol

Crude synthetic menthol, obtained by the hydrogenated of thymol, menthone, piperitone, pulegone, etc., is purified by converting the isomeric alcohols present into a mixture of acid esters of a polybasic acid, then washing the ester mixture with—or crystallizing it from—a saturated liquid hydrocarbon or hydrocarbon mixture substantially free from unsaturated hydrocarbons. Finally, the residue is saponified. A crystalline synthetic menthol of good purity is thereby isolated, while the acid esters of its isomers remain dissolved in the hydrocarbon. The esterification is preferably performed with phthalic acid or its anhydride. The saturated hydrocarbons employed may be of the aliphatic or cyclic series, the following being given as examples:—cyclohexane, methylcyclohexane, decahydronaphthalene, petroleum ether and other petroleum distillates which are, or have been, rendered substantially free from unsaturated constituents. Howards & Sons Ltd., Ilford, J. W. Blagden, South Woodford, Essex, and W. E. Huggett, London, England. B. P. No. 325,509, filed Nov. 19, 1928.

Inhalent Container

A container of glass, metal, ebonite, vulcabite, rubber, etc. for powders or liquids, perfumes, disinfectants, medicated powders or liquids, etc., adapted for inhaling, has a measuring cavity which is constituted by the outer wall of a conical delivery nozzle and a wall surrounding and extending beyond the nozzle. The nozzle may be adapted to screw into the mouth of the container and to carry a cap having a vent hole, a shoulder abutting against the rim of the body and the rim of the cap. The nozzle may also be formed in one with the body in which case it is filled through the bottom which is closed by a screw cap. The container may be cylindrical, oval, rectangular or flat. The measuring cavity is filled by inverting the container, and the substance may be inhaled by applying the container to the nostril. R. H. Walker and W. J. Morrison, Buxton, Derbyshire, England. B. P. No. 325,630, filed Dec. 14, 1928.

Synthetic Perfumes

Hydro-aromatic unsaturated ketones are prepared by condensing a delta (4) unsaturated hydroaromatic aldehyde or an endo compound of the same with a compound containing the group CH_3CO. The hydroaromatic aldehydes may be obtained by the condensation of alpha-beta unsaturated aldehydes with compounds containing a conjugated double bond system. The aldehyde obtained from 1:1-dimethylbutadiene and crotonic aldehyde being excepted. The products are odoriferous. Condensation products are obtained from acrolein or crotonic aldehyde and 1:4-dimethylbutadiene, 1:3-dimethylbutadiene, etc. I. G. Farbenindustrie A. G., Frankfort-on-Main, Germany. B. P. No. 325,669, filed Jan. 28, 1929.

Propyl Cresols

Propyl and isopropyl ortho and para-cresols are produced by heating ortho or para-cresol with propylene or a substance yielding propylene by splitting off water such as propyl or isopropyl alcohol or ether, the heating being carried out in the presence of a solid dehydrating catalyst such as aluminum, thorium, or tungsten oxide, or aluminum phosphate, alone or supported on carriers such as pumice, kiesel guhr, silica gel, or active charcoal. The reaction may be effected in the liquid or vapor phase, and pressures such as two to twenty atmospheres may be employed, for instance in an autoclave. When the liquid phase is employed, the x catalyst is distributed through the liquid by stirring. In an example, orthocresol vapor and excess of propylene are passed at a temperature of 250 to 350° C. over alumina, the condensed reaction product being fractionated to obtain the individual compounds, which include orthothymol (2-oxy-1-methyl-3-isopropylbenzene) boiling at 225° to 226° C., alpha-meta-isocymo-phenol, a small quantity of carvacrol. A mixture of dipropyl-ortho-cresols remains as a residue in the still. Rheinische Kampfer Fabrik Gesellschaft, Duesseldorf, Germany. B. P. No. 325,855, filed Aug. 30, 1928.

Thymol and Its Isomers

Thymol is produced by reacting meta-cresol and propylene in the gaseous phase in presence of a dehydrating agent such as alumina, aluminum phosphate, and thorium and tungsten oxides, and there may be used alone or on carriers such as pumice kieselguhr, asbestos, silica gel, and active charcoal. The propylene and cresol vapors may be passed over the catalyst at a temperature of 200° to 380° C. and ordinary, increased or diminished pressure may be employed. Thymol and two isomers are obtained from this reaction. Examples are given of the exact conditions under which the reaction is carried out and also of the methods used in the separation of thymol from its isomers. Rheinische Kampfer Fabrik Gesellschaft, Duessel dorf, Germany. B. P. No. 325,856, filed Aug. 30, 1928.

Synthetic Drugs

Normal-propyl and isobutyl esters of 2-phenylquinoline-4-carboxylic acid and its 6-methyl or 6:8-dimethyl derivatives are prepared by heating treatment of the acid with a multifold quantity of normal-propyl, normal-butyl or isobutyl-sulfuric acid. The products which are obtained in this manner are tasteless and possess therapeutic properties. 6-methyl-2-phenylquinoline-4-carboxylic acid is prepared by condensing paratoluidine, benzaldehyde and pyruvic acid in alcoholic solution, or by heating 5-methylisatin with acetophenone in caustic

(*Continued on page 599*)

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Ergot to Ether to Digitalis

Just why and how the controversy leading up to the present Senate investigation arose is not clear to everyone connected with the drug manufacturing industry. We attempt to clarify the atmosphere in the trade.

IT WAS on Wednesday, August 22, 1927 in the early afternoon, that the phone rang in the office of the Editor of DRUG MARKETS. When the phone was answered, a voice said:

"Hello, Farrell, this is Ambruster; what are you quoting on ergot ?"

The reply was to the effect that the market was without change at 85 cents per pound. Then the voice said:

"Well I have some new crop material at $1.75 per pound."

Upon being questioned as to whether there was much in the market, the voice said:

"No, I don't think there is any around, you had better check up."

Needless to say, we did check up, and as a result of interviews with Mr. Ambruster and the then recognized sources of ergot, there followed the first article published on the subject, "A Corner in Ergot ?" which appeared in the issue of September 6, 1927.

Looking upon the individual in question as a speculator who had set out to raid the drug manufacturing industry at the same time as he would seriously disturb the regular sources of supply, our policy was firmly set against his plan. After the market position had resumed a tone of easiness without any of the manufacturers having to pay abnormally high prices, we left the subject alone. But this man and his associates had no idea of leaving it alone, to the great wonderment of many who did not—and who do not yet—understand what he has to gain.

In conversation with the man in question from time to time, the impression has been given to us that one reason why the fight is continued is because he is "mad" about the matter. To quote part of an interview:

"These men," meaning the pharmaceutical manufacturers and the officials of the Department of Agriculture, "can't conceive of a man becoming so damn mad about a thing that he is willing to push every other objective aside and pursue this one thing alone."

But is the fact that he is "mad" about his alleged unfair treatment the only reason why he is carrying on this campaign designed to upset the confidence of pharmacists, physicians, and the public in the products of our leading manufacturers ? We think not.

It will be remembered that shortly after the controversy started, one of the largest Spanish shippers of ergot came to this country. It will also be remembered that during the course of the controversy, an embargo was placed upon imports of ergot into Spain. These two facts have a deep significance when other facts are connected with them.

A man who is friendly with Ambruster stated recently that Ambruster came to him and told him that he was thinking of taking up the matter a year before we ever heard of it. During the course of the first interview that we had with Ambruster, following his telephone call in 1927, he stated that he had been at work on the matter for six months and he knew that no one else could bring in much Spanish ergot.

Evidently then, it is quite probable that Mr. Ambruster had arranged with one or more Spanish shippers to attempt to force the manufacturers of this country to take Spanish ergot at any price that they cared to place on it.

As a friend of Mr. Ambruster's explained:

"The people in Spain produce a better ergot than any other country. But they could not continue to do so due to the fact that they could not cover their higher costs as a result of the competition from the Russian and Polish material. It is not right that the good ergot should be forced into competition with the rotten material unfit for use. But such was the case. It was with the view of getting a fair price for the material that Mr. Ambruster undertook the work."

If one takes this as Mr. Ambruster's viewpoint, one can surmise the reasons for most of his subsequent actions and policies. It can now be seen that with the object of placing this country on a basis of Spanish ergot, Mr. Ambruster probably waited until he thought that all the Spanish ergot that had been shipped prior to his entry into the market, was consumed. Then, since he knew that he was the only one with sufficient Spanish ergot to supply the needs of the manufacturers, he felt certain that he must get the business.

The reason for his reported refusal to sell other than consumers would be logical due to the fact that he probably would think that other dealers might mix his goods with goods of lower grade and thus defeat his entire purpose to have consumers buy nothing but Spanish goods. Also the aid of the Spanish Government in placing an embargo upon imports of ergot into Spain is clear, because the goods might be mixed with Spanish ergot in Spain, or might be directly shipped from Spain as Spanish ergot, thus damaging the reputation of true Spanish goods.

But since he failed to convince manufacturers here that they must buy his goods, he was left with very large amounts of ergot on his hands. He then tried to have the Government shut down on the importation of substandard ergot, an attempt in which he was eventually successful.

But unfortunately for Mr. Ambruster, other countries were subsequently able to ship ergot that met the U. S. P. requirements in every respect, and thus he still had his ergot. His attack upon the government officials for admitting substandard goods was, nevertheless, continued. The reason for this is probably as follows:

Mr. Ambruster was unable to sell the bulk of his crude Spanish ergot to the large drug manufacturers. He could not keep his goods forever as even the best of ergot deteriorates and becomes unfit for use. Then he must immediately make his ergot into fluid extract of ergot and attempt to sell this. But when he manufactured his fluid extract, the goods of the large reputable manufacturers made stiff competition for a comparatively unknown supplier. He must, therefore, bring to light the thought that much of the material on the market was made from substandard goods, and was, therefore, unfit for use. Both of these ideas were in large measure suppositions later to be proven if possible.

If Mr. Ambruster were successful in convincing the court that it was illegal to make fluid extract of ergot from substandard ergot, then much of the fluid extract on the market would also be illegal and could not be sold. In this way, Mr. Ambruster probably thought that he would have clear sailing in his effort to market his fluid extract. Of course, this method of disposing of his ergot might be more troublesome and expensive, but the profits were longer, and the battle would be won. If he could not force the manufacturers to buy his ergot, he could take their business away from them, so that they might be glad to do business with him in an effort to get this business back.

But it was a long hard fight and the results were slight. Finally the courts decided against him and refused to state that importations of substandard goods were illegal. Mr. Ambruster then repeated his demand for an investigation of the Department of Agriculture. The department itself finally joined in his demand for the investigation and it is now going on.

Mr. Ambruster employed shrewd methods to sell his goods. His efforts have finally resulted in the investigation, which Mr. Ambruster probably hopes will vindicate him and at last give him the opportunity to sell his goods.

But the methods employed to create distrust in the goods of the established manufacturers were not confined to ergot alone. Ether was very strongly drawn into the controversy. That ether should be drawn in was logical for two reasons: First, it would further embarrass the department; and secondly, one of the principal targets for his attacks upon the manufacturers is a very large manufacturer of ether.

Digitalis was likewise made a prominent matter of controversy—a drug that, like ergot, is subject to a method of biological assay that gives rather divergent results in the hands of different operators.

It is true that for a very long period of time the manufacturers or the department were uuwilling to dignify his attacks by a defense. It is also true that many among the targets for Mr. Ambruster's attacks long thought that he would stop in his campaign. But as Mr. Ambruster continued to rally to his support a number of people of more or less prominence who had probably heard only one side of the story, there appeared to be only one way to put a complete stop to his activities. The article, "Profiteers in Poison", published in June "Plain Talk" under the name of U. S. Senator Burton K. Wheeler, doubtless had much to do with the decision of the department and the manufacturers to at last force the issue to a head. Such material as published in "Plain Talk" had been read in the trade for the most part long before this article appeared. It was evidently nothing more than a rehash or a compilation of matter previously circulated by either Mr. Ambruster or his associates.

What the outcome of the present Senate investigation will be is problematical. Many side issues have been brought to the surface by this investigation that might easily result in recommendations by the committee for some changes in the methods employed by the department. However, it is far too early to predict. Certainly Mr. Ambruster has brought very little into the light at the investigation other than the material that has been disseminated during the last three years. The department still has to come to bat, and unless we miss our guess, the case that they present will be strong indeed.

Milk of Magnesia Not a Trade-Mark

A *district court rules against the* Phillips Company on the basis of prior common usage in a case that is the entering wedge to invalidate this trade-mark in foreign countries where it really has great value.

THE term, "Milk of Magnesia," has been declared as an invalid trade-mark by Judge Thomas of the U. S. District Court of the District of Columbia. This decision is in favor of McKesson & Robbins, Inc., who have been fighting this trade-mark for some years.

The trade may wonder why McKesson & Robbins or anyone else would be anxious to have this mark declared invalid, since most anyone who cares to may manufacture and sell Milk of Magnesia in this country without interference from the apparent holders of a trade-mark. But the fact of the matter is that this is just a start to attempt to open some of the export markets to goods of other manufacturers, since in many of these foreign markets it is impossible to sell Milk of Magnesia if it is not manufactured by The Charles H. Phillips Chemical Company. It is stated that some of the trade-mark rights in these foreign countries are merely deposits of the United States trade-mark, and that consequently if the United States mark can be proven invalid, then these deposits will be proven invalid at the same time.

But such is not the case in all foreign countries. In fact, since the fight first started, the holders of the trade-mark have not been asleep. Certain of these deposits have been displaced with valid trade-marks taken out by the Phillips company so that much more expensive fights and not nearly so conclusive fights must be undertaken in many of these countries by those who would open these foreign markets to the goods of all manufacturers.

And as regards this country, the case is not settled. The decision in question is merely a decision of a district court and doubtless will be appealed by the Phillips company.

But the decision of the court is most interesting because it brings some very important facts to light regarding this commonly distributed product.

The decision says in part:

"The only point left to be decided is whether the two trade-marks (Milk of Magnesia, and the Spanish, Leche-de-Magnesia) were properly registered under the ten year clause of the Trade-Mark Act of February 20, 1905.

"The ten year clause of the Act explicitly provides that nothing in the act,—which of course includes the prohibition against the registration of descriptive terms—shall prevent the registration of any mark by the applicant or his predecessors, or by those from whom he derived title, prior to ten years preceding February 20, 1905.

"Both trade-marks are descriptive of the goods sold by the defendant. As a matter of fact it appears from the record that these words were not originated by the defendant but are found in many publications issued many years prior to the time that applications for patents were filed. Consequently it is questionable whether these words constitute proper trade-marks even under the ten year clause. This point, however, need not be decided. We are more concerned with the question whether the defendant did have exclusive use of its trade-marks in the ten year period preceding the Trade-Mark Act of February 20, 1905.

"The generic or descriptive name of the product covered by the patents is hydrate of magnesia, and the record shows that such goods were sold not only by the defendant but by others during the ten year period. The question is—did the others mark their goods "Milk of Magnesia" and/or "leche-de-Magnesia" at any time during the ten year period ? It is admitted by the defendant that the plaintiff has proven certain small and sporadic uses of the words "Milk of Magnesia" in connection with the manufacture and sale of hydrate of magnesia. Defendant,

(Continued on page 574)

More Grief for Manufacturer

(*Continued from page 550*)

But the recent survey of the grocery distribution field, made by the Department of Commerce, showed that in a store with a total expense of $90,000 to move the goods into the customers hands and replace them on the shelves, there were made 500,000 sales of various items. This means that it costs two cents to move any particular item. On a five-cent bar of soap, this is 40 per cent. of the selling price, while on a fifty-cent item it is only four per cent. The department, therefore, recommends that the stores try and get rid of these small priced items that cost so much to handle. If, the department states, it were possible to wrap soap and such items in packages of five bars each and have the customer buy in such units, the abnormally high cost of handling the five and ten-cent items would be eliminated.

The retailer will doubtless find that he is not equipped to compete with the ten-cent store in the sale of ten-cent merchandise. The ten-cent stores have large display space, untrained clerks employed at very low wages, very large buying power on one size, and practically no wrapping of packages—they are placed in bags. Furthermore, the buyers entering the ten-cent store are looking for small low-priced packages, while those entering the drug store are mainly of a different type.

That the rush to the ten-cent size is in the opposite direction to the general trend of modern merchandising activities is well illustrated by the action of the cigarette manufacturers and the soft drink manufacturers. All cigarettes are now packed in tins of fifty, and real effort is being made to increase the popularity of this size package. The leading ginger ale manufacturers are likewise placing real merchandising effort behind the larger size bottles but recently introduced. In the same way, manufacturers of many toilet preparations are working up combinations by which the purchaser is intrigued into spending more money for the goods of that manufacturer than ordinarily would be the case. The trend is definitely to induce the consumer, by means of savings made in his interest, to buy greater amounts of the merchandise of one manufacturer at one time. This trend is not only directly beneficial to the manufacturer, but also to the retailer dispensing the items. Furthermore, it is in perfect accord with the basic economic trend of this country, which is to give the consumer as much as possible for the money that he is willing to spend.

There is, however, the possibility that enough manufacturers may meet the demands of the retail trade for the ten-cent sizes, to make extremely difficult the refusal of other manufacturers to follow the lead. In this connection, manufacturers might do well to consider the effect of the sampling aspect of the small sizes of products of other manufacturers and the possibility of this sampling overcoming the effect of heavy advertising appropriations. Certainly a manufacturer will have to think carefully about allowing his competitors entirely to conduct this form of sampling in the drug trade. Perhaps these manufacturers might meet the situation much in the same way as they met the demand for shipments of split dozens—supply the demand reluctantly, educate the retailers to the fact that it is uneconomic from their viewpoint, and get out of it as quickly as a turn in the trend can be developed.

Katz Drug Co. annual report for the year ended Dec. 31, 1929, indicates that sales were the largest in the company's history amounting to $5,523,149, an increase of $812,408 over 1928. Net income after making provisions for taxes, depreciation, and all other charges, was $419,637, equal to $4.09 a share on the 112,431 shares of common stock outstanding Dec. 31. The company recently opened its fifth store in Kansas City and it is estimated that this new store will increase total sales at least $1,000,000 annually.

Holders of Armstrong Cork Co. will vote on June 17 on increasing the indebtedness of the company from nothing to $15,000,000 in the form of 10 year convertible 5% gold debenture bonds due June 1, 1940. Report on earnings for calendar year, including domestic subsidiary companies is $4,980,537, equal to $4.14 per share. Surplus is $13,606,180.

Standard Chemical Co., Des Moines, have purchased the business of the Howard-Holt Co., Cedar Rapids, Iowa. The purchase includes the firm and trade names, formulas, business and good will. Their plant has been moved to Des Moines and is being merged with the Standard Chemical Co. business.

Sharp & Dohme, Inc. report net profit after income taxes and reserve for contingencies of $1,683,007 for 1929. Net profit for the present corporation is equal to $790,583, and for prior corporations $1,101,372.

W. A. Burnett, formerly head of the Chicago Division Service Department, Phoenix-Hermatic Co., has joined J. L. Zeman as representative at the San Francisco office, the address of which has been changed to Manufacturers' Agents Exhibit Building.

Chesbrough Mfg. Co. report earnings for the year 1929 at $1,586,597. This compares with $1,269,628 for 1928. Earnings per share on 120,000 shares of common stock was equal to $13.22 against $10.58 the previous year.

Stein Cosmetics Co., Inc. have elected O. R. Seagraves, president of the United Gas Corp. a director.

Robert Gair Co. report a loss of $488,441 for 1929. Balance, surplus, shows a deficit of $1,023,614.

U. S. P. XI

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Milk of Magnesia Not a Trade-Mark

(*Continued from page 571*)

however, maintains that these uses were negligible from a commercial standpoint and are not sufficient to overthrow the secondary meaning attached to the words "Milk of Magnesia" as the trade-mark of the defendant.

"While the record shows that Meyer Brothers Drug Company of St. Louis, Mo., did manufacture hydrate of magnesia beginning in 1902, to and including 1905, the 1903 price list of this firm listed hydrate of magnesia, and in parenthesis adjacent to these words, the words "Milk of Magnesia," the labels did not have displayed thereon the words "Milk of Magnesia." Such use of said words is not a bar to registration by the defendant of its mark "Milk of Magnesia." However, the record proves conclusively that Nelson Baker & Company of Detroit did manufacture continuously from 1897 to 1900 substantial quantities of Milk of Magnesia; that labels were printed on which the words "Milk of Magnesia" were displayed, although it does not clearly appear that such labels were affixed to the various sizes of bottles in which the product was sold. The price lists of Nelson Baker & Company for the years 1898, 1899, and 1900 contain a listing for "Milk of Magnesia" and the witness Haney testified that plaintiff's exhibit 24 is a photostatic copy of an old label book of Nelson Baker & Company containing a label for "Milk of Magnesia" and that the book was made up around 1903 or 1904. This testimony is corroborated by the witness Black who testified that this label was affixed to various sizes of bottles of "Milk of Magnesia" put out by Nelson Baker & Company. Aside from the testimony of Black, it would be unreasonable to assume that these labels, having been printed, were not used. Parke, Davis & Company of Detroit also had listed "Milk of Magnesia" in its price lists of 1904 and 1905, and had labels printed containing the words "Milk of Magnesia", but there is nothing to show in the record that these goods were sold or distributed in the market prior to February 20, 1905. However, H. K. Mulford of Philadelphia began the manufacture of "Milk of Magnesia" during 1904 and sold that product during 1904 and 1905, and labels were issued containing the words "Milk of Magnesia" by its label bureau on November 2, 1904, and Milk of Magnesia was sold by this concern not later than November 15, 1904. Again it is safe to assume that the goods were sold with the labels attached.

"No good purpose would be served by a further review of the evidence as it appears from the foregoing, and from an extended and careful examination of the evidence in the case, that the defendant was not the *sole and exclusive user* during the ten years necessary to entitle it to such registration of the mark "Milk of Magnesia" which registration it procured."

Making Drug History

Leslie J. Downs, E. R. Squibb & Sons, recently made assistant treasurer of the firm as well as of Squibb Plan, Inc., also Manager Price Quotation Department.

Edward C. Merrill, chief chemist United Drug Co. has undertaken the guidance of Scientific Section of Proprietary Association organized by Phillip Heuisler.

Frederick Sweet Stearns, Frederick Stearns & Co., takes over the presidency of the firm due to resignation of Willard Ohliger.

Willard Ohliger, who started with Frederick Stearns & Co. as a boy, is forced to resign from the presidency due to ill health.

Marvin R. Thompson, Department of Agriculture, at the age of 24 wins the Ebert Award for "contributing the most to science of pharmacy". Mr. Thompson's work was on ergot.

Albert Viault, Foreign Trade Counsel, proprietary Association, is the only man connected with any drug association for the purpose of increasing exports among its members.

Drug Industry Stocks

1930 May 31 Bid	1930 May 31 Asked	1930 High	1930 Low	1929 High	1929 Low	ISSUES	Par $	Shares Listed (000 Omit.)	Earnings per share An. Rate		Earnings per share 1929 $
						NEW YORK STOCK EXCHANGE					
148	148½	156½	117¼	184½	86	American Can	25	2,474	$4.00	†	6.86
145¾	146⅛	146¼	140¼	145	133½	pfd	100	412	7.00	†	48.17
17⅜	18	33	16¼	55	20	American Com'l Alcohol	No	382	1.60	*	2.59
63	64½	69¾	55¾	85¾	40	American Home Products	No	611	4.20	‡	2.67
12	12½	22½	11⅞	...	...	American Solvents & Chem. Co.	No	...	...		...
26	26½	33½	24¼	...	...	pfd	No	...	...		...
62	62½	64⅛	59	...	...	Colgate-Palmolive-Peet Com	No	1,999,970	...		...
99½	100	100	97	...	...	6% pfd	100	151,449	...		...
16	16¼	22½	12	23½	12	Container Corp. Class A	20	279	1.20	*	1.23
5¾	6	8½	4½	11½	3½	Container Corp. Class B	No	588	...	*	0.14
27	27½	33	24¼	82½	18	Coty, Inc.	No	1,493	2.00	*	2.46
82¾	83¼	87½	77	126½	69	Drug Incorporated	No	2,941,776	4.00	†	3.10
...	...	61½	52½	79¼	40	House Hold Products	No	575	3.50	‡	2.64
96¾	97	113	93	157½	80½	Lambert Co.	No	699	8.20	*	7.79
28½	28¾	36	28	68⅝	28	Lehn & Fink	No	419	3.20	‡	2.20
27	27½	37⅜	25	59	21¼	McKesson & Robbins. Com	No	1,911	2.00	‡	1.50
42	43	49½	41½	63	40	pfd	50	421	3.50	‡	5.13
55⅞	56	63¾	48⅝	80¼	47	Monsanto Chemical Co.	No	398	1.25	*	4.44
52	54	60⅞	50¼	89½	43	Owens-Illinois Glass Co.	25	827	...	*	4.04
52	55	60¼	53	...	...	Peoples Drug Store	No	...	...		...
19	19½	27½	17	65⅞	50	Sharp & Dohme pfd	No	777	...	a	0.88
89	89¾	139⅜	84½	243⅜	95	U. S. Ind. Alc	No	373	6.00	‡	5.30
...	...	89½	77¾	...	...	pfd	...	...	...		...
4	4¼	7⅛	4	13½	3	Vadsco Sales	No	971	...	*c	0.86
						NEW YORK CURB					
⅜	½	1⅛	⅜	7½	¾	Allison Drug Stores Class A	No	70	...	e	...
⅜	½	⅜	⅜	5¾	½	Allison Drug Stores Class B	No	95	...	e	...
165	172	184½	155	210	130	Ches. Mfg. Co.	25	120	4.20	†	8.49
...	...	4½	2	57½	2	Davis Drug Stores Allot. Ctfs	...	...	...		...
5⅛	5¼	7¾	5	26½	3½	Helena Rubenstein	No	289	...	‡	1.13
...	...	23	19	41¼	17⅛	Heyden Chemical Corp.	...	150	...	†	2.02
...	...	...	7⅛	6¾	24⅛	International Perfume Com.	No	392	1.00	g	1.02
...	...	71	67	...	...	$6 Cum. Pfd.	No	61	2.75	g	8.81
...	...	...	...	...	...	May Drug Stores	...	...	...		...
69½	71	73	55¼	67¾	40	Mead-Johnson	No	165	3.00	‡	3.30
1	2¼	2⅜	2¼	12	1⅛	Nauheim Pharmacies Com.	No	97	...	*	Nil
3½	9	6¼	3½	32¼	2	pfd.	No	45	...	*	0.71
1⅞	1⅞	1¾	1¼	13	2	Neve Drug Stores, Com.	No	170	...	h	...
32½	33½	42	24	52	21½	Newport Co., Com.	No	405	2.00	*	2.18
37	37	38	32	46½	29½	Northam Warren Corp. Pfd.	No	50	3.00	g	10.35
34	35½	42½	33⅛	58⅛	40⅜	Parke Davis & Co.	No	4,770	1.00	†	1.73
...	...	...	...	...	...	Sharp & Dohme, Com.	...	...	...		...
21	21½	23½	10	24	10½	Stein Cosmetics, Com.	No	60	...	i	...
8⅛	8¾	9¼	8	18	6¾	Vick Financial Corp.	10	750	...	j	...
44	44	61	41½	107½	35⅛	Walgreen Co., Com.	No	834	...	‡	1.63
16	16½	21⅛	14½	44¼	13	Zonite Products Corp.	No	176	1.60	*	1.31
						CLEVELAND					
95⅛	98	100	69¾	80	60	Dow Chem. Co.	...	...	...	..	...
...	...	...	...	...	...	pfd.	No	25	1.60	..	...
28	30	32½	22	42	20	Miller Wholesale Drug Com.	...	...	...	..	...
18¼	19	21	18¼	51	24	Weinberger Drug Com.	No	30	2.00	..	...
						CHICAGO					
39¼	40	46½	35	52	36	Abbott Laboratories	No	120	2.00	†	3.86
33½	34½	42¼	33½	73	28¾	Katz Drug Co., Com.	100	100	2.00	..	...
2½	3	6	2¼	29¼	2	Lane Drug Co., Com VTC	No	95	...	g	0.92
6	6	15	6	32	14	Cum. pfd.	No	65	2.00	g	3.00
						CINCINNATI					
13½	13½	18	13	41½	16	Dow Drug Co.	No	90	1.00	..	...
...	...	...	...	125	102	pfd.	100	400	7.00	..	...
...	...	...	...	...	...	Standard Drug A	...	...	...	..	...
						BALTIMORE					
31¼	32	33½	30	39½	25	Emerson's Bromo Seltzer	No	56	2.00	..	...
						UNLISTED					
...	...	...	...	...	...	Heyden Chemical Corp. pfd.	...	...	...	..	...
...	...	...	...	...	...	Merck pfd.	...	...	...	..	...
...	...	...	...	...	...	Noxzema Chem. Co	...	...	...	..	...
...	...	...	...	...	...	Squibb Com.	...	...	...	..	...
...	...	...	...	...	...	pfd.	...	...	...	..	...

† Yr. Dec. 31, '28.
* 9 mos. Sp. 30, '29.
‡ 6 mo Je. 30, '29.
a 8 mos. Au. 31, '29.
b 3 mos. Sp. 30, '29
c Before Fed. Tax.
d Yr. Je. 30, '29.
e None Reported.
f Incorporated in April, 1929
g 10 mos. Oct. 31, '29.
h Controlled by United Cigar Stores
i Incorporated in Dec., 1928.
j Affil. with Vick Chem. Co.

McKesson & Robbins, Inc. made application with the New York Stock Exchange for listing 910,000 additional shares, 300,000 shares of which may be issued in accordance with an option granted to bankers in connection with the purchase by bankers of 22,000,000, principal amount of twenty-five 5½ per cent. convertible debentures of the corporation.

The Proctor & Gamble Co., Cincinnati announce the acquisition of James S. Kirk & Co., Chicago soap manufacturers. The terms of purchase were not announced.

Drug Stocks Recover

After reaching the low for the year on May 21, the prices of common stocks of drug and cosmetic companies advanced slightly during the past two weeks, according to the index of the Standard Statistics Company, of New York. The stocks of 337 industrials declined slightly last week, although prices are still substantially above the year's low. Detailed figures on both the drug index and the index for 337 industrials, follow:—

	1926 equals 100	
	Drugs and Cosmetics	*337 Industrials*
May 7	160.6	157.0
14	163.8	163.5
21	158.7	158.2
28	160.0	161.7
June 4	161.0	161.4
1930 High	174.7	174.1
Low	158.7	146.0
1929 High	260.6	218.9
Low	158.8	134.5

Kay-Fries Chemicals

Kay Laboratories, Inc., West Haverstraw, N. Y., Fries & Fries, of Cincinnati, and the American-British Chemical Co., New York, announce the merging of their interests into a corporation to be known as Kay-Fries Chemicals, Inc.

The board of directors of the new firm will include Sir William Alexander, chairman of the board of Charles Tennant, Ltd., of London; Alfred G. Kay, president of Kay Laboratories; W. McCameron, vice-president of the American Celanese Corp; E. H. Watson, vice-president of the American-British Chemical Co., and J. T Ames, secretary and treasurer of the Kay Laboratories.

American Commercial Report

Directors of the American Commercial Alcohol Corp. voted to omit both cash and stock dividends, which have been paid at the annual rate of $1.60 a share cash and 5 per cent. stock.

In a statement issued after the meeting it was declared that unfavorable conditions in the alcohol industry have developed since the first of the year. General industrial depression, lower prices for alcohol due to price cutting in the industry were among the unfavorable conditions mentioned.

The company's financial position is reported as fairly sound. Current assets on April 30, 1930, were $3,673,510, of which $465,000 was cash, against current liabilities of $879,490, a ratio in excess of 4 to 1. There are no fixed charges. Therefore, it is declared, stockholders may look forward to resumption of dividends as soon as earnings are again normal and the future of business more clearly determined.

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POTASSIUM
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MANUFACTURING CHEMISTS
EST. 1849

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Maybe the fact that he had conscientious advice from the suppliers of boxes, bottles, jars, tubes, raw materials and perfume oils, had nothing to do with his success.

Possibly the success was just luck.

The manufacturer in question doesn't think so. *Neither do we.*

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**Name cannot, in all fairness, be disclosed.*

We manufacture perfume and flavor materials, and can help you use them.

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Aromatic Chemicals made in our own factory at Elizabeth, N. J. Also imported chemicals. Both are as pure as can be made.

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Perfume Specialties comprising a vast number of attractive oils for every perfuming purpose.

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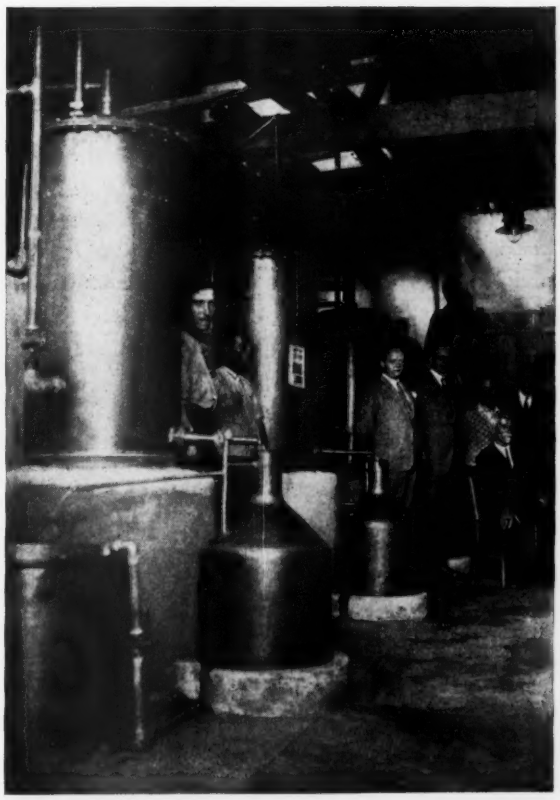
Rose Bulgarian

By G. Karaivanoff
Chemical Engineer

ESSENTIAL oil of rose plays a leading role in the perfume industry, for the reason that it enters into the composition of a great many perfumes, and is employed in the manufacture of a miscellaneous number of toilet preparations. Bulgaria is oftentimes called the country *par excellence* for the culture of the oleaginous rose, and, as the United States consumes each year a growing quantity of Bulgarian oil, a complete description of the production of Bulgarian rose oil has been prepared, as follows, for the readers of DRUG MARKETS.

The rose-growing industry has existed for several centuries in Bulgaria, and according to properly authenticated records the Bulgarian rose oil trade flourished as early as the seventeenth century. Despite the fact that other countries have bent every effort to increase their rose tree plantations, Bulgaria, from the point of view of quantity and quality, still leads in the production of essential oil of rose. In fact, with respect to the particular type of oil produced Bulgaria holds a monopoly.

How has this industry developed to such a prosperous stage ? Bulgaria, first of all, owes very much to its geographical location and to its soil, both of which react so favorably to the culture of so delicate



Modern Bulgarian Rose Distillery

Gathering Roses at Karlovo.

a flower as the rose. There exists in Southern Bulgaria a plain called by the inhabitants "Valley of Roses," which is really the chosen realm of the so-called queen of flowers. This plain, covering some 3,400 square kilometers, is like an emerald set in between mountains high enough to protect it from the cold winds and storms, and also assuring it the humidity required for the quantity and quality of oil during the gathering period. The cultivation of the rose tree extends exactly between the 42nd and 43rd parallel and 22nd and 24th degree of longitude, East. It extends to the North as far as the slopes of the Balkans, and loses itself toward the South in the plain of the Maritza.

Rose plantations are to be found in the valley of the Strema, district of Karlovo; the valley of roses, district of Kazanlik; in the valley of the Toundja and practically to the plain of the Maritza. In 1916 the area occupied was 8,920 hectares, whereas at the present time the territory devoted to roses covers

Bulgarian Rose Oil Stills

Gathering Roses in the Famous Valley

5,729 hectares. The sections counting the greatest number of rose trees are Karlovo, with 3,100 hectares, and Kazanlik with 1,456 hectares, according to the official figures for 1929. Following a critical period, this culture, neglected as a result of the Balkan and world wars (in 1923 the rose tree plantations covered no more than 4,560 hectares) is being steadily brought back to normal.

In the aforementioned region the soil is particularly favorable to the rose tree, being geologically constituted of syenite, gray crystalline rock of feldspar and hornblende, the decomposition of which assures a permeable and very fertile ground. This richness is further enhanced by the fact that the territory is covered with a clayey soil, composed of sand, gravel and argil. Such a combination of constituents forms a mellow soil in which the roots of the rose trees can penetrate easily and find abundant nourishment.

The following table gives an analysis of the soil in the valley of roses:

Samples taken at	*Depth of Soil*	*Humidity at 105° C*	*Humus*	*Salts dissolved in 10 per cent. solution HCl*					
				Az	P_2O_5	K_2O	*CaO*	*MgO*	Al_2O_3	SiO_3
Maglich	80	1.010	1.440	0.096	0.174	0.312	0.569	0.373	1.780	0.106
Klissoura	80	1.306	1.823	0.103	0.061	0.162	0.160	0.207	1.161	0.115
Tekia	80	2.285	0.733	0.158	0.255	0.259	0.843	0.693	4.148	0.087
Karlovo	80	1.902	2.003	0.110	0.148	0.552	7.054	0.716	3.056	0.194
Rozovo	80	1.223	0.744	0.057	0.069	0.219	0.173	0.209	2.159	0.117
Pavel Bania	80	0.845	0.927	0.038	0.070	0.178	0.245	0.198	1.780	0.106
Dabene	80	2.253	0.735	0.057	0.100	0.439	0.469	0.281	7.661	0.168

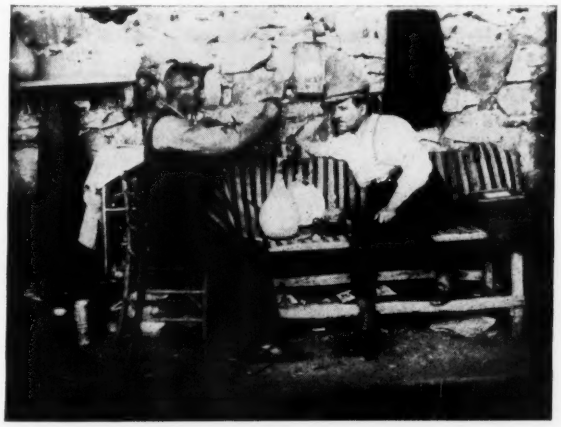
On the other hand, the climate is eminently favorable to the culture of the rose tree. The region concerned enjoys, as a rule, a continental climate, but during the flowering period it is of a kind that is especially fine for the development of the Bulgarian rose. Meteorlogical stations report that during the last ten years the average temperatures for the months of May and June (flowering time for the rose) have varied between 11 and 15° Centigrade, or 52 to 59° Fahrenheit, and the rains for the same period have averaged about 900 liters per square meter.

During the flowering time, because of the foregoing atmospheric conditions, the roses are covered each morning with a heavy dew, necessary to the richness of the flower insofar as the quantity and quality of the essential oil is concerned. In fact, only a day or two of sun and heat, without dew, is required to substantially lower the yield in oil.

This combination of climatic conditions (temperature and humidity) is such as to constitute almost the entire secret of this culture, so rich in perfume, a veritable gift from nature.

Of course, it must also be borne in mind that the contour of the surrounding country has much to do with the successful development of the rose tree in Bulgaria. To the north of the valley the mountain Stara-Planina rises high enough to protect the plantations against strong winds and cold blasts, which, during the winter, as well as during the flowering period, exercise a destructive influence on the development of the oleaginous rose. Furthermore, the numerous rivers which descend the Balkan mountains (Stara-Planina) and from the Sredna-Gora chain maintain the moisture, or humidity, required by the rose tree.

The foregoing natural advantages explain the reason why experiments with the Bulgarian type of rose have not been especially successful in other regions, and this in spite of the fact that the cultures experimented with received every care and attention. One can, therefore, come to the conclusion that the quantity, and, above all, the quality of the Bulgarian rose oil are due to the privileged geographical position of the valley of roses.



Removing rose oil from surface of distillate

Interior of a distillery

Varieties

There are something like thirty different varieties of the so-called oleaginous rose, but, generally speaking, only two kinds are cultivated on Bulgarian territory: the *Rosa Dasmascena*, red, considered to be a cross between the *Rosa Gallica* and *Rosa Canina*; the *Rosa Damascena Var Alba*, white.

The red rose tree attains a height of 1.50 meters, and the young buds are reddish. The leaves are ellipsoidal and crenate, without pedicles, and the upper side is downy. Three to seven flowers are grouped on each branch, and the flower when in full bloom measures from 4 to 5 centimeters in diameter. The calix and the conical receptacle are covered with viscous glands; the petals are rounded, rose-colored, and although double they have a considerable number of stamens provided with large yellow anthers.

The white rose tree attains a height of 2.50 meters, and is very bushy. When young the branches are a bright green, getting darker with age. The branches of the white rose tree are filled with strong thorns, making them ideal to be employed as hedges around the rose plantations in order to protect those more fragile. Five to seven flowers are grouped on a branch, and the odor is not as strong as that of the red rose. The white roses also offer a smaller yield of oil (about two times less when taking an equal amount of flowers, in weight, of the white and red), and the quality of the oil is inferior, for the reason that the white rose contains more stearoptene. This flower gives more per acre, however, and is much less subject to maladies. For the distilling perfumer the red variety is most desirable, and is the one most cultivated in Bulgaria.

Rose trees live and produce flowers for twenty to twenty-five years, but from the tenth year on their yield in flowers diminishes. For this reason it is best to rejuvenate plantations every ten years. Depending

(Continued on page 589)

THE SIGNIFICANCE OF A NAME

In generations gone by when a particularly fine bit of art was created by a master craftsman, in the pride of creation he always carved thereon his own mark or the insignia of his Guild, his gesture of confidence in the creation by which he sought to identify to the world and to posterity *his craftsmanship*. It was *his signature, his trade-mark.*

When we inscribe the name FRITZSCHE BROTHERS, INC. on our products, we are passing on to the perfume industry a pledge of faith and merit and a mark of identification by which the world's finest perfume materials can be recognized and confidently purchased.

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Rhodinol vs. Citronellol

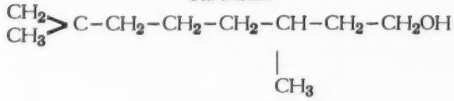
Later information has come to light on this interesting subject

CONSIDERABLE discussion has been aroused among chemists as to whether or not the natural derivative, rhodinol, differs from citronellol, used as a substitute for natural rose and geranium oils. Articles on the subject have appeared in practically all of the publications devoted to the solution of the perfumer's problems, the question of the structural relationship of citronellol and rhodinol, as set forth by Barbier and Tiemann, having been taken up at length in the August and September, 1923, issues of Les Parfums de France. The most recent article on the subject of the constitution of citronellol and rhodinol appeared in the January, 1930, issue of that publication. For the manufacturing perfumer much of this discussion between chemists is of comparatively little interest or value, except from the point of view of stimulating a sense of alertness with regard to the use of these two popular products.

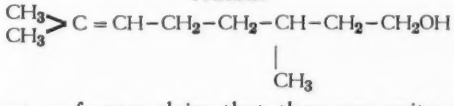
Citronellol is an alcohol existing in the natural rose oils, and is extracted from geranium oils, of which it is a principal constituent. Its rose odor is very fine and quite persistent. Rhodinol is an alcohol obtained from the Bourbon, Spanish, Algerian, and other geranium oils. This alcohol is also found in the natural rose oils. It is a colorless liquid, and very much used in artificial rose compositions, several formulae calling for rhodinol being given in this article, thus permitting the manufacturing perfumer to carry on experiments for the creation of one or more items that have proved themselves popular on the continent.

It is not difficult to understand why discussion has arisen about citronellol and rhodinol when we take into account the following formulae, showing the make-up of both products:

Citronellol



Rhodinol



Some perfumers claim that they can quite easily distinguish citronellol from rhodinol by comparing their olfactive qualities. The chemist, however, usually relies entirely upon the foregoing formulae. According to R. M. Gattefossé, it must be admitted that up to the present time it has not been possible to isolate, practically, rhodinol in a pure chemical state, and he goes on to quote L. S. Glitchich, who gives a resumé of the problem, as follows:

"The rhodinol contain quantities, more or less plentiful, of geraniol, constituting mixtures rather than a pure body, no matter what the method for isolating the oils may be. Their constants change according to the degree of purification and the source utilized."

It is further pointed out that some of the commercial rhodinols on the market show widely varying constants, due, on the one hand, to the fact that they have not been wholly freed of geraniol, and also because of the addition of phenylethyl alcohol, artificial citronellol (citronellol-d), etc., in order to lower the cost. Sometimes a small amount of an oriental rose oil is added, for the purpose of masking the presence of certain synthetics, used to defraud the purchaser.

For protection, the manufacturing perfumer can ascertain for himself the density, rotatory power and index of refraction, thus assuring himself of the purity of the product purchased. The examination of rhodinol is all the more simple, because of the fact that, generally speaking, all additions lower the rotatory power and increase the density and index of refraction.

The constants have not, apparently, been established scientifically for rhodinol. Gattefossé, however, states that whatever the veritable make-up of rhodinol may be, the constants can not be much different from those given in connection with citronellol-l, which correspond very closely to those of a rhodinal taken from rose oil: (See Tiemann Ber. 29.906 and Schimmel Ber. Oct. 1900.56.

$(a)D = -4°20'$ to $-4°30'$
$d_{15}° = 0.8612$ to 0.8670
$n^{20°}D = 1.4578$ to 1.463

And the closer the manufacturing perfumer comes to the foregoing, the more positive he will be as to the purity of the product tested.

(Continued on page 589)

THE NEWPORT AROMATICS

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ROSES

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Terpin and Terpineol*

EVERYONE knows that resinous products and oil of turpentine represent the principal riches of the southwestern part of France. Among the synthetic derivatives of the oil of turpentine two have assumed an important place in certain industries, particularly in that covering perfumes and toilet preparations of all kinds. They are what is known as terpin and terpineol, their processes of manufacture having been the subject of a number of papers at the recent international pine congress. The various ways in which these products may be utilized were also discussed at length.

Terpin was secured for the first time in 1820 by Buechner, by hydrating the carburets of oil of turpentine by means of mineral acids properly diluted. Terpin comprises two molecules of water, and by partial dehydration it is transformed into terpineol.

Industrially terpin is prepared by the hydrating action of a diluted acid, generally sulphuric, on the pinene. The operation is effected in lead-lined vats on a mass of liquid which may attain several tons. A careful mixing process is begun, and a reaction is noticed the minute the desirable uniformity has been secured. As the transformation is effected, the terpin rises to the surface, bringing with it a small quantity of oil not yet hydrated. In order to obtain the same percentage as that secured in laboratory work, which is high, it is indispensable to do a great deal of very energetic mixing, even with highly concentrated solutions. As the reaction produced is isothermal in character, it is also indispensable to have recourse to high refrigeration facilities, in order to prevent the formation of by-products.

There are two kinds of terpin: sisterpin and transterpin. The first is utilized more in medicine than in industry. Among the medical profession, terpin constitutes a medicament frequently employed, notably in connection with the respiratory organs. For this purpose it must first be purified by means of a drying, and then a washing process. It crystallizes in boiling water, and in alcohol it forms crystals which are limpid and brilliant. In industry terpin is used especially for the purpose of preparing terpineol.

Terpineol constitutes the tertiary alcohol of the terpene series. There are three different kinds which one meets with in the commercial terpineols, the density of which is 0.937 at 15° Centigrade.

The preparation of terpineol is effected in large lead-lined alambics, or stills, in which the raw terpin, coming directly from the drying process, is subjected to a partial dehydrating process, in the midst of a weak acid solution, generally brought about by phosphoric acid 3 to 4 per cent. in strength. This operation is then completed by rectification in a vacuum, which permits of eliminating numerous and complex by-products that are formed.

Terpineol is used in many ways at the present time, particularly in the manufacture of soaps, because of its great stability in connection with alkalies. It is also widely employed by the manufacturing perfumer, constituting the base of lily, lilac, lily of the valley, cyclamen, carnation, jasmine, as well as being used in the preparation of oils of clover, mimosa, geranium, lavender, etc. It is, therefore, a raw material of great importance in the industry of natural perfumes, and also in that of synthetic perfumes, for by the etherification of this product, a number of highly valued ethers are secured, like terpinyl formate, terpinyl acetate, and terpinyl butyrate. Other industries make use of its solvent qualities, particularly in the manufacture of varnishes.

Another by-product that is very interesting is the so-called terpinolene. It is obtained by total dehydration of terpin under the continuous action, hot, of sulphuric acid. It comes into existence as a by-product in the manufacture of terpineol. This substance, which has been for a long time looked upon as a succedaneum, or substitute, for turpentine, possesses solvent and siccative, or drying, qualities superior to those of turpentine. It oxidates, in fact, more rapidly during the drying of the pellicle of the varnish. Besides this, terpinolene is a powerful antiseptic, endowed with remarkable microbial properties, particularly with regard to the bacillus of tuberculosis.

The principal countries producing terpin and its derivatives are, in the order of their importance, Germany, United States, England and France. World consumption of terpineol is, at the present time, more than 2,000 tons per year.

Of this total French production is only about 150 tons, a third of which is exported. The production figures for Germany, however, show about 500 tons. As France, therefore, is in an excellent position so far as the production of oil of turpentine is concerned, it is, indeed, regrettable that, even though so well situated with regard to raw material, she ranks only fourth in the production of terpineol. And it is to be hoped that this industry will see a satisfactory development in France during the next few years.

Translated from a recent issue of the Journee Industrielle.

The Significance of a Label

UNGERER LABELS carry as full and complete chemical and physical specifications of the products sold under them as is practical. The label is a guarantee that the product meets those specifications and further that it is pure and of the finest quality.

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Market Facts From Grasse

¶Orange Flower Conditions Better

¶Rose Crop Half Last Year

¶Jasmine Crop Looks Small

¶Clary Sage Prices Point Down

¶Lavender Position Uncertain

By O. C. Zilisch
Our Grasse Correspondent

PICKING of the orange flower has progressed along normal lines, except for some of the adverse weather conditions encountered, particularly the lack of consistent sunshine, so necessary to the orange flower. The first days of gathering were stopped abruptly by rains, which, naturally, serve to lower the essential oil yield of the flower. Distilling perfumers interviewed the middle of May were frankly anxious about the fact that the neroli yield, due to the wet weather, was then anywhere from 40 to 80 per cent. of the normal. At the present writing the conditions have turned for the better, although they are not entirely satisfactory. With sudden good weather, it is now estimated that the orange flower crop will run from one-half to two-thirds of the normal. Whether or not the low essential oil yield will greatly influence the final production figures is not yet certain, for the reason that the various districts specializing in the orange flower report widely different results. For example, the Bar-sur-Loup section is said to be fairly satisfied with the neroli yield, due to the warm weather that intervened during the latter part of May, particularly around the twentieth of the month. This year's crop of orange flowers has, as the trade knows, been looked forward to for months, due to the fact that practically all of the neroli stocks originating in the Grasse region have been absorbed. Lower prices are said to be certain, although prevailing conditions make it impossible at this time to give any definite, fixed figures. Some of the distilling perfumers who feature French neroli are already reported as being in an excellent position, making it possible for them to quote prices of 8,000 to 10,000 francs ($320 to $400), instead of the nominal prices of 17,000 to 19,000 francs ($680 to $760), quoted during the latter part of April.

Orange Quotations Lower

What the cold weather and snows of the 1929 season did to the crop of orange flowers for that year is too well-known to be described again here, but it is interesting to look back and see that the deficient yield of last year brought with it a nominal quotation, during the latter part of June, 1929, of 20,000 francs ($800). As late as February and March of this year the nominal price was given as somewhere around 18,000 francs ($720).

With regard to what an inferior yield of neroli, despite a so-called normal crop, can do to prices, it is only necessary to go back four years, to 1926. About the fifteenth of March in 1926 neroli was quoted as bringing 5,500 francs ($220), and on the fifteenth of June, that same year, after what was reported to be a normal yield of flowers, the prices had gone to something like 7,500 francs ($300), with the prediction that they would go higher than that. The main reason was that the gathering of the orange flower in sections like Golfe-Juan and Vallauris, for instance, was severely affected by the rain and wind during the latter part of May in the year 1926, resulting in a neroli yield below the normal, even though the crop itself was wholly satisfactory.

Price paid for the orange flower in 1926 was 8 francs (32 cents) per kilogram, which was considered high. The prices paid the growers last year, as already reported, was officially 21 francs (84 cents),.whereas the actual prices varied between 22 and 24 francs (88 and 96 cents), depending upon the sections involved, a condition resulting from the deficiency in yield experienced through practically the entire Grasse region at that time. This year's price has been fixed at 10 francs 60 centimes ($.4240) per kilogram, with which the growers, as a whole, are satisfied. The distilling perfumers also express themselves, in general, as in agreement with this season's offer. In other words, both grower and distilling perfumer, insofar as the orange flower in concerned, feel that they are working on a fair, profitable basis.

Section Conditions Vary

Conditions among the orange trees of the Golfe-Juan and Vallauris districts are such that a number of the growers have become somewhat discouraged, because of the destruction caused by the hard winter of 1928-29. Some of the trees were so badly damaged that it will take several good years for them to come back to satisfactory state of production. Due to the fact that this section of Southern France is producing a small amount of the orange blossoms this year, the yield, as already mentioned, will be about one-half to two thirds of the normal for the entire region. Among the more favored sections are those of St. Laurent-du-Var, Bar-sur-Loup, Tourettes, Saint-Jeannet, with this year's yield running from one-half to three-quarters of the normal, whereas the figure for Golfe-Juan and Vallauris is estimated at no more than one-third.

As reported last month, the rose yield is expected to fall considerably below that of last year. Latest reports are to the effect that the crop will not go beyond half that of last season, which was, as the trade will remember, an excellent one for this culture. The price to the growers, after the meeting of the perfumers' association, signalled last month, was fixed at 3 francs 50 centimes (14 cents) per kilogram, which, although still considered too low by the growers, will permit them to at least cover expenses. Hardship has been felt among the growers, as pointed out from time to time, because the required labor is so hard to secure. It is thought among the peasant growers that something radical will have to be undertaken during the coming years, in order to save the rose from disappearing altogether. This is particularly true for the reason that many of the rose trees are being attacked by destructive diseases, and what is known as rust, or blight. .A study of these various questions is being undertaken by the parties concerned, and it is hoped that the well-known May rose of the Grasse region will see the awakening of interest it deserves.

Trimming of the jasmine plants has been terminated, and the vegetation of this culture is practically normal for this time of the year. The plantation owners are, however, very discouraged to hear that a lower price than that paid last year—17 francs

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Aromatic Chemicals

CONSTANTIN MINTCHEFF, KETCHEDJIEFF
Kazanlik, Bulgaria
Otto Rose

H. RAAB & CO.
Roermond, Holland
Artificial Musks

P. R. DREYER *Inc.*
26 CLIFF STREET,
NEW YORK, N.Y.

(68 cents) per kilogram— is predicted. This fact has brought with it much dissatisfaction, and once more the labor question comes into play. Much of the usual care given this important culture has been neglected, because of the impossibility to engage the right kind of labor. This neglect on the part of the growers of jasmine will, it is felt by those close to the soil, seriously affect this year's yield. In fact, predictions are already current that this year's crop of jasmine flowers will not be very large. This prediction may be a bit premature, as the season is not far enough advanced to give any definite figures.

A number of the old jasmine plantations have been completely abandoned, with no provisions made to renew them. This situation is regarded with alarm, as the jasmine plays a leading role among the perfume-flower plants grown in the Grasse region. Some say it is only another way for the grower to force higher prices into existence, and that just as soon as the prices have been brought to a higher level jasmine will again be grown by practically everyone in the region. This is the same thing that happens from time to time with the rose and other cultures in the Grasse district, so that there would be nothing very strange in tactics of this character.

Clary sage has enjoyed great popularity among the growers during the past few years, with the result that to-day new plantations are springing up all over the region. This is rather disconcerting to some of the distilling perfumers who point to the quietness of the market on oil of clary sage, which can be picked up at prices varying anywhere from 1,800 to 2,000 francs ($72 to $80). Activity has, for some reason or another, been weak on this essential oil, and, although stocks in existence are reported as not being very large, a tendency downward in price may be looked forward to when the new crop is in. This season's yield promises to be a record one, if weather and other conditions continue good. The first gathering of clary sage for the year is made during the months of June and July, with a second cutting in the autumn. This latter crop is, however, not as good as that treated during the months of June and July.

Clary Sage Grows Wild

The clary sage has a very interesting history. It was hardly known to the perfumer some twenty years ago. Several manufacturing perfumers used it in certain combinations, and to-day it has been placed among the indispensables, particularly as it is very highly regarded among those desiring a special type of fixative. The plant itself exists in the wild state in France, and has for a number of years been used by the peasants for therapeutic purposes. In some sections it is also used for matizing, or flavoring wines.

Of interest at the present time is the fact that in the valley of the Siagne, near Pegomas, a number of growers have planted comparatively large amounts of reseda. This culture is ready for treatment usually during the months of June and July, insofar as the distilling perfumer is concerned. The sowings made in the valley of the Siagne are quite experimental in nature, as a few of the better known varieties of reseda were planted in order to arrive at tangible data with regard to size and quality of yield. Futhermore, the experiments were undertaken for the purpose of seeing just what could be accomplished with the reseda from every point of view, and not only as to the requirements of the distilling perfumer. Although the reseda must be planted anew each year, it has the advantage of growing very quickly, and is, therefore, of interest to the peasants. The demand for the reseda is not as active as it should be, which fact will, no doubt, keep the actual production of this culture at a comparatively low level.

The spring gathering of cassia has terminated, with a yield that is not at all important as to quantity. Roman cassia concrete is quoted at 4,000 francs ($160), and the ancient at 6,500 francs ($260).

Planting of the mint and geranium was carried out during the last part of May and first days of June.

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improve the flavor of the finished product.

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guaranteed to meet all U S P requirements. Exceptionally fine in the characteristic odor and taste of Wintergreen; free from harshness; lending itself admirably for use in flavoring extracts, confectionery, antiseptics and pharmaceutical products.

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for
Face and Shaving Creams, Soaps, Lotions and Insecticides

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The D & O quality is chosen by discriminating buyers.

Obtain our prices for quantity lots.

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We are headquarters....
Consult us before buying.

We are Headquarters
for
VANILLA
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OIL ROSE BULGARIAN
OIL ROSEMARY

FLORAL WATERS

Cherry Laurel	Elder Flower
Orange Flower	Rose

Our prices are no higher than frequently made for inferior products.

D & O The Standard of Quality!

OIL CASSIA U S P
(Redistilled)

Our Oil Cassia tests higher in Cinnamic Aldehyde content than demanded by U S P and we guarantee it also as to absolute purity and uniformly high quality.

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NEUTRAL POWDERED SOAPS

for your tooth paste or toilet preparation you must consider these important points:—

The specific properties of the soap for your particular product.

The fineness to which the soap is pulverized.

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The color, odor, and taste of the soap.

POWCO BRAND LABORATORY CONTROLLED NEUTRAL POWDERED SOAPS meet these exacting requirements. They eliminate the danger that the use of improper soap attaches to your finished product.

Allow us to analyze your soap problem and submit samples.

JOHN POWELL & CO., INC.

114 E. 32nd STREET NEW YORK, N. Y.

Rose Bulgarian

(*Continued from page 579*)

upon the territory involved, a plantation is established either in the autumn or the spring, and the plants are in full production after the third year. Rose trees are placed in straight lines, spaced from 1.50 to 2 meters, and the plants themselves are placed at intervals of 40 to 50 centimeters, in holes of 40 centimeters in depth. Plantations established in the autumn are given special care, and the cuttings, or slips, are covered with about 15 centimeters of earth to protect them from the cold. Each year fertilizer is applied, and the plantations are spaded in the springtime and two times after the gathering period.

The blossoming time usually commences the last of May, and the gathering is continued for about a month, the beginning of the gathering period, as well as its duration, depending entirely upon climatic conditions, existing each year. If the weather is hot and dry, the yield may be taken care of in fifteen days. If, on the contrary, the weather is mild and wet, the gathering period extends over a month.

Roses in Bulgaria are picked by hand just before they are in full bloom, and the picking is done between the hours of 4 and 8 each morning, while the flowers are still covered with dew, this being a requirement if the maximum yield in oil, both as to quantity and quality, is desired. The flowers are placed in baskets or bags, and taken to the distilling perfumers, where they are treated as soon as practicable on the same day they are picked. Because of this latter requirement, the distilleries are located near the various plantations, in places where sufficient water may be secured to handle large quantities of roses.

(*To be concluded*)

Rhodinol vs. Citronellol

(*Continued from page 581*)

Formulae calling for rhodinol, taken from Fouquet's recent work, follow:

White Rose

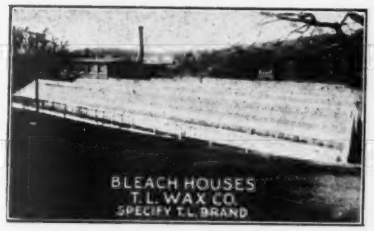
Rhodinol, extra, or terpeneless geranium oil	700 cc.
Jasmine oil	100 cc.
Patchouli oil	10 cc.
Vetiver oil	15 cc.
Sandalwood oil	25 cc.
Orange oil	50 cc.
Rose oil, oriental	100 cc.

Rose (Artificial)

Rhodinol, or terpeneless geranium oil	800 cc.
Nerol	25 cc.
Linalol	35 cc.
Santalol	15 cc.
Phenylethyl alcohol	25 cc.
Aldehyde C^8 (octyl)	5 gr.
Ethyl methylphenylglycidate	5 gr.
Citral	10 cc.
Rose oil, natural	80 cc.

T.L. PIONEER

BEESWAX



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T. L. BRAND

Sun Bleached under glass from the highest quality crude yellow beeswax obtainable. Especially suitable for the manufacture of toilet preparations of quality, that will keep and not turn rancid or yellow.

PIONEER BRAND---Yellow

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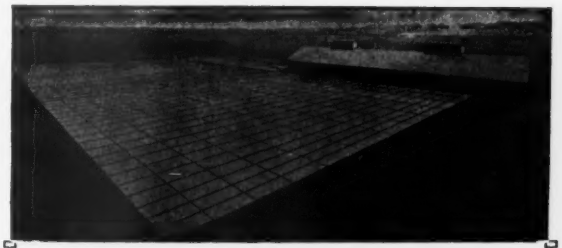

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Absolutely Pure
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Stearic Acid—Red Oil
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Perfume oils for . . . .

Creams
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. . . . and all cosmetics.

Permit us to submit samples and quotations.

We are confident we can serve you to advantage.

Largest manufacturers of aromatic products in America.

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PRODUCTS
DELAWANNA

Rose I

Phenylethyl alcohol	425 cc.
Rhodinol	400 cc.
Jasmine oil, artificial	50 cc.
Nerol	25 cc.
Vetiver oil, natural	15 cc.
Sandalwood oil, natural	10 cc.
Neroli oil, natural	10 cc.
Tuberose oil	10 cc.
Rose oil, natural	55 cc.

Rose II

Rhodinol	475 cc.
Nerol	35 cc.
Phenylethyl alcohol	25 cc.
Linalol	60 cc.
Citral	2 cc.
Aldehyde C^{10} (decyl)	0.5 gr.
Aldehyde C^{9} (nonyl)	2 gr.
Aldehyde C^{8} (octyl)	0.5 gr.

Oriental Rose

Geranium oil, terpeneless	500 cc.
Rhodinol	300 cc.
Jasmine oil, artificial	70 cc.
Nerol	20 cc.
Rose oil, natural oriental	80 cc.
Aldehyde C^{9} (nonyl)	10 gr.
Alcohol C^{9} (nonyl)	10 gr.
Ethyl methylphenylglycidate	10 gr.

From the beginning of time almost rose perfumes have been very popular, and the introduction of synthetic aromatics some years ago has helped to extend a line of perfumes which have always proved profitable for the manufacturing perfumer. Natural rose oils are distilled in the Orient, in Bulgaria and in France, but the amount produced each year would prove deficient if it were not for the synthetics like geraniol, nerol, phenylethyl alcohol, roseol, rhodinol and citronellol, which, judiciously combined, serve to produce a rose of a suavity equal to that of the natural flower odor. The main thing is for the manufacturing perfumer to assure himself of the purity of the product purchased, so that no disagreeable surprises and annoyances may be met with when compounding.

Styrol

Styrol and its homologues are obtained by passing aklylated, aromatic hydro-carbons with at least eight carbon atoms and ten hydrogen atoms through a reaction vessel heated up to a temperature of 450 to 700° C. The rate of flow of the vaporous hydrocarbons, designated as R and measured in grams per minute, the temperature of the middle section of the reaction tube, designated as T, and the volumetric contents of the heated portion of the same, designated as V and measured in cubic centimeters, are interconnected according to the following formula:— The value of K is from 0.8 to 1.2. The Naugatuck Chemical Co. Naugatuck, Conn. German Patent No. 476,270, filed August 29, 1924.

The Law on Foreign Corporations

(*Continued from page 566*)

state business in Tennessee to register. The requirements of such registration are that the foreign corporation shall file in the office of the Secretary of State, a duly authenticated copy of its charter, and designate some individual, firm or corporation residing in Tennessee and having an office or place of business in that State, as its Agent for the service of process upon it for all actions brought against it in the Courts of that State, and also to pay into the office of the Secretary of that State the sum of $300.00. This law is clearly constitutional. However, as to the other law, House Bill No. 85, the proposition is different. This law provides for the payment of an annual franchise tax which may be determined by two methods at the option of the foreign corporation. The first method provides for the computation of the tax by taking a sum equal to one-half of one per cent. of the gross amount of the corporations receipts arising from business done wholly within the State, with a minimum tax of $25.00. The other method of computation is based upon the authorized capital stock of the corporation with a minimum fee of $5.00 and a maximum fee of $150.00. If this law contained only the first method, it would be constitutional. If it contained only the second method, it would be unconstitutional, in view of the decisions in the cases above cited. In other words, the law is in part constitutional and in part unconstitutional, but the constitutional part is wholly independent of the unconstitutional part. If this construction is correct, the Courts would probably permit the constitutional method to stand and reject only the unconstitutional method. The tax provided for by the first method is small and is in fact an invitation to foreign corporations to accept the law as it stands regardless of the question of its constitutionality, and the second method is more or less of a threat to foreign corporations that if the constutionality of the statute is attacked, there will be a constitutional method of taxation left which would be much more burdensome if the unconstitutional method was rejected by the Courts.

"The Tennessee situation has been discussed in detail because it shows a growing tendency on the part of the States to procure revenue from foreign corporations doing merely a turnover business in those States which corporations in all fairness and in spite of the decision of the Supreme Court of the United States in the Cheney case, should be free from local taxation. The only remedy seems to be to amend the foreign corporation laws of the various States, by providing that foreign corporations which do a turnover business shall not be considered to be doing a local or intrastate business andt herefore not subject to local taxation."

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The Earth Contributes
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ANALYZED
CRUDE
DRUGS.
Tested BOTANICALLY
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Are you having trouble with your soap?
If you are, investigate
HOPKINS POWDERED SOAP
NEUTRAL WHITE
Especially adaptable for use in tooth powders and pastes, mouth washes, bath powders, and shampoos.
Neutral, non-irritant, snow white and free from a soapy flavor, yielding a profuse, lasting lather.
Possesses exceptional cleansing power, and is not prone to become rancid, nor harden with age.
Yields finished products that are uniform in composition and appearance.
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Importing Drug Merchants
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"INERTO"

"INERTO" is resilient—that means a good tight seal.

"INERTO" is backed by a resilient material—that means a doubly good seal.

"INERTO" actually is plastic and moulds itself to the shape of your bottle top. A thrice protected sealing medium!

"INERTO" is chemically inert! Acids or alkalis; alcohol or witch-hazel; iodine or ammonia; peroxide, or chlorine—the action of these and other active agents is resisted by "INERTO".

"INERTO" can be had in our continuous thread screw caps, or can be furnished separately for other purposes such as wrapping around corks or bungs, etc.

"INERTO" is particularly effective in our caps, to prevent hygroscopic action on salts, etc.

Inquiries are solicited

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Metal Screw Caps

Saniseal Metal Milk Caps *Distilled Water Caps*

Crown Corks *Special Purpose Caps*

"FILMASEALS"

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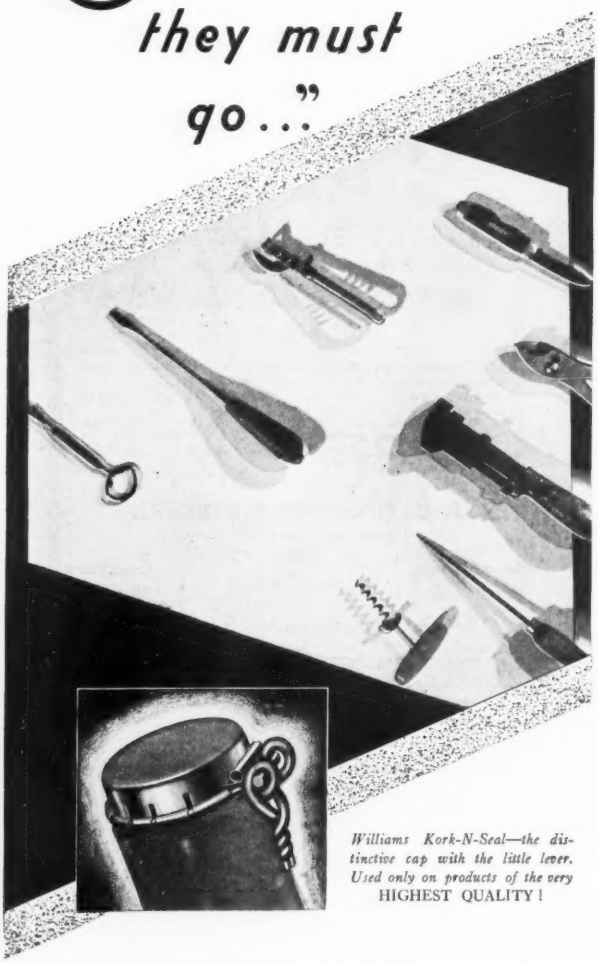
"Out the window they must go..."



Williams Kork-N-Seal—the distinctive cap with the little lever. Used only on products of the very HIGHEST QUALITY!

THE ingenious little lever on the Kork-N-Seal cap is worth a whole arsenal of such exasperating distress-weapons! To open any bottle or can, just raise the little lever. To reseal it—air-tight every time—just press the little lever *down*.

Quite a number of makers of drug products have already adopted Kork-N-Seal as "standard equipment." Its possibilities in the drug field are unlimited.

You may know a lot about Kork-N-Seal from seeing it on numerous well-known products. But do you know about Kork-N-Seal in terms of your *own* product? How it safeguards quality until the last drop has been used? How it provides extra selling points to crowd out tight competition?

We urge you to write direct for some of the laboratory and sales tests that have been the basis for other manufacturers adopting this newer and better sealing method. Williams Sealing Corporation, Decatur, Illinois.

Williams

KORK-N-SEAL

THE CAP WITH THE LITTLE LEVER

With regard to the Tennessee situation, Mr. Thompson also made some pertinent remarks:

"A rather embarassing situation has developed. A corporation member of this Association wrote to the Secretary of State of Tennessee, stating that they had no office in that state, no property therein and that their representative had no permanent address but travelled from county to county, being on the move all of the time. I quote in part from their letter:

"'....This representative that we have now placed in your state calls on the general merchants, puts up a tin sign on his store, if permitted, and also puts inside the store some advertising material. He also solicits an order from the general merchant. If he procures an order, he sends it to this office.... and we in turn submit the general merchant's order to a Tennessee jobber, provided the merchant asks that the shipment be made him through a Tennessee jobber.

"'We have no office in the State of Tennessee, no property therein except in the small amount of advertising matter that is carried by our salesman. This representative will have no permanent address, but will travel from county to county, being on the move all the time. Neither will we have any money deposited in any Tennessee bank.'

"In answer to this letter the Secretary of State of Tennessee advised this member corporation as follows:

"'....Had you written this office inquiring whether or not you were subject to domestication, setting out the facts as stated in your letter just received, we would have advised that this state of facts did not make out a case which would require domestication.'

"This opinion of the Secretary of State is at variance with my view. The situation is embarassing only by the fact that it was written by that officer of the State of Tennessee who is in charge of the office in which applications for domestication are filed. Had this opinion been given by another than an office of the State, I would have paid no attention to it. This opinion offers to foreign corporations an opportunity to proceed with practices as outlined without the necessity of complying with the foreign corporation act. However, in my opinion, this offer is only during the term of the present incumbent and then only in the event he is not overruled by other officers of the state.

"I do not believe it to be a safe rule to follow. I do not believe this opinion is correct. I would be guilty of intellectual dishonesty if I stated otherwise but I am bound to call it to your attention. I can best state my views by setting forth here excerpts from a letter which I wrote to the corporation member of this Association, as follows:

"'....I note in your letter of March 26th to the Secretary of State, referring to your salesmen, you say,—

" 'If he procures an order, he sends it to this office .... and we in turn submit the general merchant's order to a Tennessee jobber, provided the merchant asks that the shipment be made him through a Tennessee jobber.'

"Upon this statement of fact, the Secretary of State writes that you would have been advised that it did not make out a case which would require domestication. This is most interesting. I am much pleased that Mr. Haston has given his opinion that the practices outlined in your letter will not require the domestication of foreign corporations within that state. The difficulty with Mr. Haston's view, as I see it, is this,—if Mr. Haston is right, the Supreme Court of the United States is wrong.

"It is not at all certain that another Secretary of State will take the same view as Mr. Haston. His opinion would be much more persuasive if we could know that the Attorney General had been consulted and that it represents the latter's view as well. Officials of other states having similar laws, may not follow this interpretation. They may prefer to follow the opinion of the Supreme Court of the United States."

Selling to Argentina

(*Continued from page 564*)

The establishing of an export policy in regard to your trade with the Argentine is all important, and this cannot be done until you are fully familiar with the conditions existing in that country, and the character of the people. The more carefully this preliminary survey is made, the more probability there will be of your success.

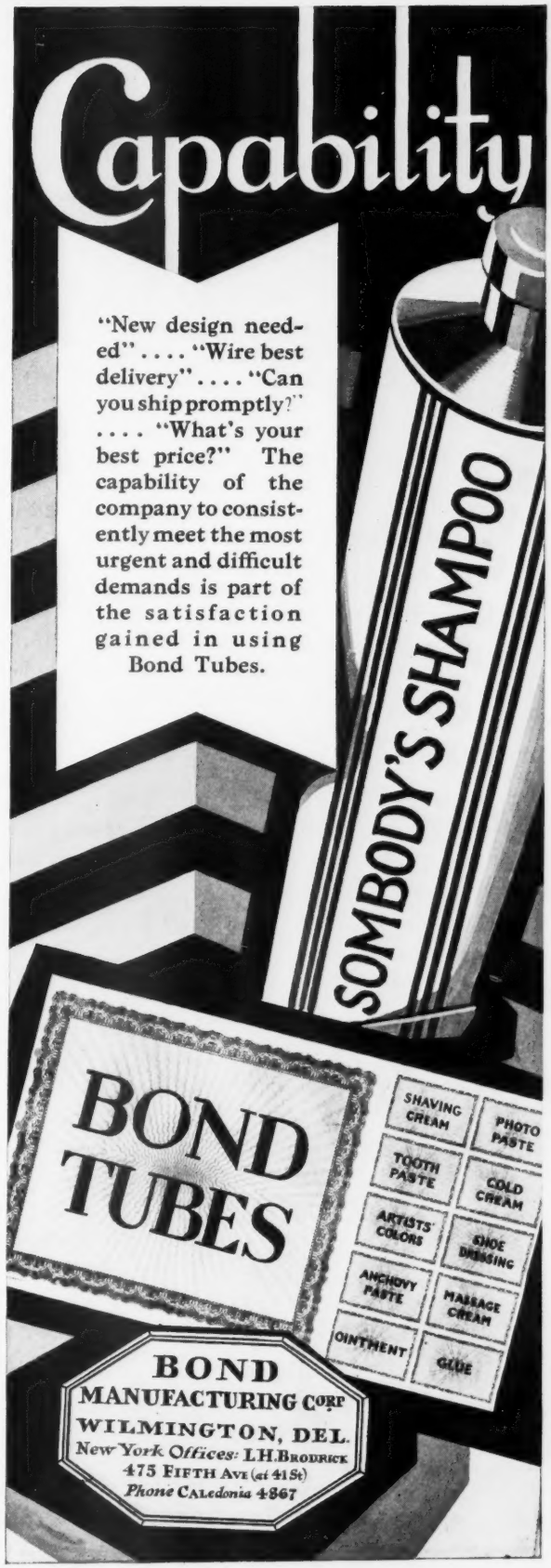
As Mr. Cobb's Senatorial friend has said, if we are willing to study their needs and cater to their merchandising principles, we are assured an interest and profitable relationship. "We ought to be selling more than we do sell."

If, as Mr. Cobb points out "our ignorance touching on the culture of the Argentinos and their institutions and their possessions is as colossal as it is criminal," would it not be well for us to investigate the situation and get out of the criminal class ?

Superior Products, Inc., is to be organized under a plan already formulated to acquire the assets and business of Louis Philippe, Inc.; Neet, Inc., and Hopper Kissproof, Inc. Authorized capital will be 1,000,000 shares of no-par common stock. Of this capitalization, 382,800 shares will be outstanding, it is planned.

Stocks of these three cosmetic companies will be exchanged for shares of Superior Products, Inc., on the following basis;—Louis Philippe, Inc., Class A and B, and Neet, Inc., Class A and B shares will be exchanged on a share for share basis, while Hopper-Kissproof, Inc., stockholders will receive 115,000 shares to be exchanged pro rata for 50,000 shares outstanding.

The business of each company will be continued as operating subsidiaries of Superior Products, Inc., The three companies had total assets of $2,526,045 at the end of 1929.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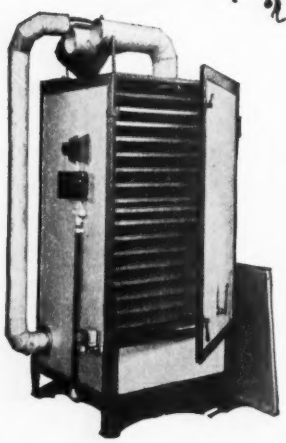

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Summer time need not be "trouble time" in your drying process. STOKES Drying Closets are compact; occupy 3′ x 4′ floor space. Each unit self-contained, highly insulated, efficiently heated. Uniform drying. Heated air recirculated at high speed. Removable shelves.

Heated by steam, electricity, or gas. Thermostatic control, if desired.

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Molds of all Types	☐	Drug Mills and Mixers	☐
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Meeting Merger Advantages

By
Francis Chilson

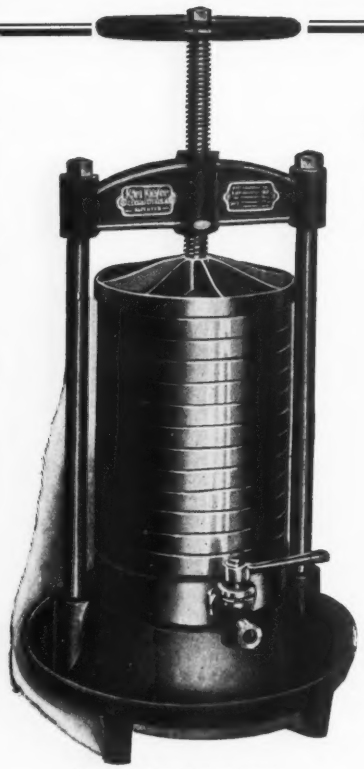
THE increasing expense of advertising and distribution is compelling closer attention to costs than manufacturers of cosmetics and pharmaceuticals have had to pay to this subject hitherto. Although but a small part of the total cost of doing business is devoted to factory costs, yet this phase of expense receives most attention. The reason for this is, of course, that such costs, being tangible are easiest to control.

But despite a generally recognized necessity for reduction of cost, few manufacturers are progressive enough to retain expert counsel to aid them in achieving this end. Many of them, indeed, do not employ even chemists. Each manufacturer takes a special pride in dealing by trial and error with his own problems, disregarding the fact that many of them have been solved successfully by other manufacturers in his own and allied industries. With these various methods of reducing costs and of increasing business the expert is familiar. His broad contacts give him a fund of this practical information; and his technical training on the other hand enables him to view a specific problem with a detached perspective impossible to the persons in continual contact with it. Thus, the expert becomes for his clients a clearing house for profitable information.

It is in their recognition of the value of expert advice that large syndicates and trusts differ from small independent units. Also, unlike the small organization, the trust can afford to retain expert talent on a permanent basis. But by co-operative action small organizations *can* enjoy many of the advantages of the large syndicates. Among these, in addition to expert counsel, may be enumerated large scale purchasing and economical distribution.

Let us consider specifically how co-operative action could reduce the cost of shipping. All of the smaller units of the industry make daily shipments of less than carload lots for which they are compelled to pay high rates both to trucking companies and to the railroads. If several of these units in a given locality agreed to pool shipments, carload rates could be obtained for all. Many organizations maintain distributing centers at stragetic points throughout the country which could be pooled also. But where such redistributing centers are not maintained, railroads will provide "trap-cars" which can be consigned to certain points and there broken down and redistributed by the railroad companies. A "trap-car" can be loaded with miscellaneous shipments for many points west of Omaha, let us say; to this point, therefore, shippers obtain carload rates, and are charged at less-than-car-load rates through to destination from the point at which the car was broken. At the present time, due to relatively little demand for them, railroad companies

Not only can the large buying power of powerful combines be met by the smaller unit in the drug manufacturing field, but their ability to engage expensive talent to solve their various production and other problems can likewise be completely offset as a competitive advantage.



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Over 3000 in use. Has set the standard of brilliancy for over 30 years.

How does your product look? . . . is it clean, clear, sparkling?

THAT'S the way you want it to appear. That's the way *real* filtration will make it.

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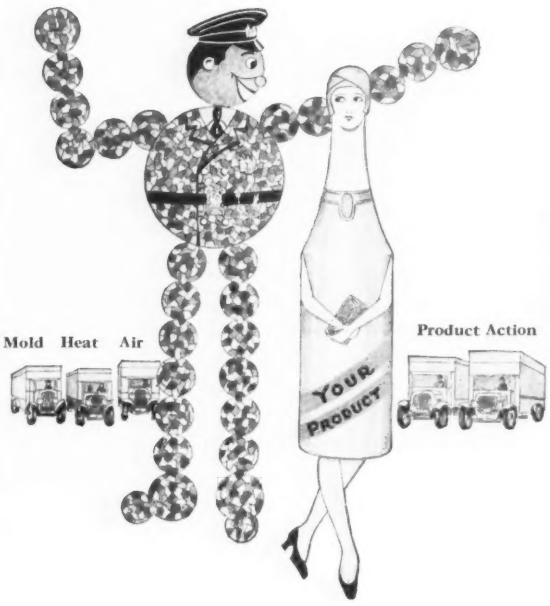
Cincinnati, Ohio



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reserve "trap-cars" for the use of organizations having their own sidings. But co-operative action, as has been proved by dairymen, can command services impossible to the individual.

Confining our remarks to shipping costs, exclusively, let us consider how co-operative action in purchasing could reduce costs still further. There is no reason why shippers in the same locality should not pool their purchases of excelsior, corrugated, wooden cases, sealing tape, twine, and wrapping paper. A comparison of the cost per pound of excelsior bought by the bale and by the carload will indicate what savings could thus be made.

While such co-operation to some manufacturers might seem highly theoretical, it must not be forgotten that in addition to being the raison de etre of the large syndicates, it is also being done by progressive retail merchandisers. The Associated Merchandise Corporation with its subsidiary The Retail Research Corporation, is in effect the central purchasing department of eighteen or twenty of the largest department stores in the country.

While pooling to this extent may have its disadvantages, it is incontrovertible that pooling for the purchase of special materials such as herein enumerated can effect great economies.

Still confining our remarks to the reduction of shipping costs, let us consider the ways in which a specialist can aid us. He would determine first if the stock room is laid out to facilitate putting up outgoing orders, and to the maintenance of fresh stock. The nature of the product and the unit of sale would govern this. For a general line of preparations sold by the dozen, the stock bins should be arranged with the best selling items facing the shipping counter, so that the stock clerk can reach them without traveling very far. The rest of the bins can be arranged as nearly as possible in order of stock number, with slow selling items stored near the ceiling and heavy items stored near the floor. It is not advisable to have bins for such a line deeper than thirty inches. If much small order business is done, a row of bins can be reserved for odd lots of the entire line. This reserves the main bins for unbroken packages. A revolving bin built like a carousel is a useful device for the storage of small items. From this a clerk can assemble an entire order at one point by merely revolving the bin. (This device is very useful, incidentally, for the storage of labels and corks.) A perambulator is useful in putting up many small orders. Other ways that the specialist might suggest for reducing costs might include the substitution of shredded parchment excelsior for wood excelsior, since it is lighter, springier, and cleaner. With its use it is possible to entirely eliminate the cloud of excelsior dust common to most stock rooms—and it doesn't cost any more than a good grade of wood excelsior. It frequently happens that two corrugated cartons can be substituted for one wooden case; the two cartons are lighter and together cost less. When a manufacturer is paying freight on out going shipments he will appreciate every device for reducing the weight of his shipments.

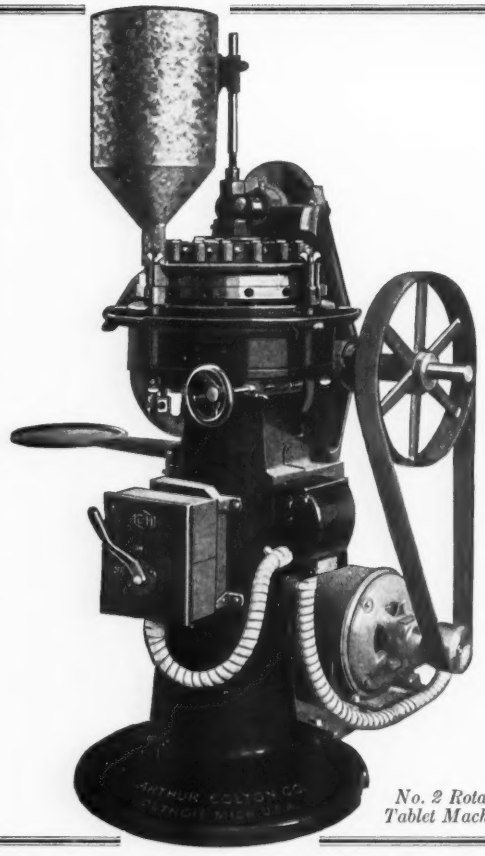
Too frequently shipping costs, since they are accounted for as a part of selling expense, are not studied in detail, and hence are lost sight of. But in the future much more attention will be given to the reduction of all forms of distribution cost than is now the case.

In other phases of manufacturing many striking inefficiencies arising from failure to retain expert advise are evident. Consider for example, the customary procedure in developing a new package. In the minds of most manufacturers there is something sacred about this; profound are the discussions of the relative sales appeal of one color or one form over another. Several people in the organization (excepting, usually the man charged with its production) have a hand at it. At last, after the expenditure of much time and energy, the package is evolved. But even then there is no positive assurance that the package will handle effectively in the mill; and if the time of all the people in the organization that had something to do with its development was charged against it, its cost would be tremendous. Nearly everyone in the trade at some time or other passes through this same trial and error procedure and is bumped by the same difficulties. Yet, we go blithely on unaware of the pitfalls into which other manufacturers have fallen and so fail to profit by their experience, or the example set by the large combines.

Pistachio Oil

The kernels of Pistacia vera of Levant origin were extracted with the aid of light petroleum, and was found to yield 25.6 per cent. of a golden yellow oil. This oil had a density of 0.91484 at a temperature of 15° C. When the oil was diluted with carbon disulphide and when sulphuric acid was then added, the color of the oil was changed to an olive-green. The oil was also obtained by pressing the kernels. This oil was analyzed and the following characteristics were obtained:—density at 15° C., 0.91370, density at 19° C., 0.91355, index of refraction of light at 25° C., 1.4655, saponification number 195.31, iodine number (Huebl) 87.90, Hehner number 93.7, Reichert-Meissel co-efficient 0.77, Polenske number below 0.3 acetyl co-efficient 19.19, unsaponifiable matter (containing phytosterol) 0.226 per cent. and total content of fatty acids 93.5 to 94.4 per cent.

The fatty acids were also analyzed and the following characteristics were obtained:—melting point 34 to 37° C., solification point 28° to 30° C., iodine number 93.70, molecular weight 274.85. The fatty acids were composed of 81.74 per cent. of liquid acids and 17.92 per cent. of solid acids. The liquid fatty acids contained alpha-linoleic acid 8.41 to 9.46 per cent., beta-linoleic acid 14.78 to 15.03 per cent., oleic acid 70.28 to 70.70 per cent., hydroxy acids about six per cent., while the solid fatty acids consisted apparently altogether of palmitic acid. Tests were made for stearic, lignoceric and arachidic acids but they could not be detected. The oil was also distilled with steam and an essential oil was obtained, possessing a turpentine odor. Only a small amount was obtained. K. Beythien, Pharm. Zentral., 1929, volume 70, pages 551-8; 571-3.



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

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These well-known products–

are now being bundled on our machine

The same reason that impelled the makers of these products to adopt machine bundling, should make you consider it—*it saves money; a lot of money!*

Instead of expensive containers, you use strong kraft paper. You can realize what a saving this makes. There's a saving in labor too—one bundling machine takes care of the output of two cartoning machines.

Determine definitely how much machine bundling will save you; get in touch with our nearest office.

Squibb's Tooth Paste
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Ipana Tooth Paste

PACKAGE MACHINERY COMPANY, Springfield, Mass.

New York Chicago Los Angeles

London: Baker Perkins, Ltd.

PACKAGE MACHINERY COMPANY

Over 150 Million Packages per day are wrapped on our Machines

Review of Patents

(*Continued from page 568*)

alkali. 6:8-dimethyl-2-phenylquinoline-4-carboxylic acid is obtained by condensing 5:7-dimethylisatin with acetophenone in the presence of caustic alkali. J. A. Wulfing, Berlin, Germany. B. P. No. 325,985, filed Feb. 8, 1929.

Organic Mercury Compounds

Aromatic hydrocarbons are mercurized by treating them with mercuric acetate under reflux conditions in the presence of glacial acetic acid. The mercuric acetate may be replaced by mercury compounds which yield the acetate under the conditions of the reaction. Thus for example phenylmercuric acetate is prepared by the treatment of benzene with mercuric oxide and an excess of glacial acetic acid under reflux condition, the mixture being heated to a temperature of 90° to 95° C. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 325,846, filed Nov. 30, 1928.

Solutions of Barbituric Acid

Substituted amides of the lower fatty acids, containing only one alkyl group attached to the nitrogen atom, are employed for rendering soluble in water the difficultly soluble barbituric acids. Solutions, obtained in this manner may be used for subcutaneous injection. According to an example, 75 or 80 per cent. concentrated solutions of monomethyl—or monoacetyl-amide are used to dissolve phenyl-ethylbarbituric acid or cyclohexenyl-ethyl-barbituric acid. The prior use of unsubstituted amides or of amides which contain 2-alkyl groups attached to the nitrogen atom is referred to. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. B. P. No. 325,847, filed Nov. 30, 1928.

GERMAN PATENTS

Arseno-Benzols

Aromatic arsenic compounds, of suitable kind, three or five-valent, or mixtures of two different arsenic compounds or their salts are reduced in suitable suspension media or solvents. The reduction is accomplished with the aid of hypophosphoric acid or the salts of this acid and sulphurous acid and the salts of this acid. I. G. Farbenindustrie A.G., Frankfurt-am-Main, Germany. G. P. No. 483,212, filed Sept. 7, 1926.

Phosphorus-Organic Compounds of Vegetable Substances

This process is for the preparation of phosphorus-organic compounds from vegetable raw materials and for the simultaneous recovery of the vitamins contained in them. The vegetable raw materials are extracted with water alone or in necessary cases with water, which has been acidified weakly with inorganic or organic acids. The extracts are treated with calcium carbonate for the purpose of recovering the inosite phosphate, and the filtrates from this process are worked up in the ordinary manner

(*Concluded on page 601*)

Abbott

Acriflavine Acid
Acriflavine Neutral
Benzocaine U S P
Berberine Sulphate Acid
Berberine Sulphate Neutral
Berberine Hydrochloride
Cinchophen U S P
Colchicine Alkaloid U S P
Hydrastine Alkaloid
Hydrastine Hydrochloride
Lobeline Sulphate
Neocinchophen
Podophyllin U S P
Powd. & Solid Extracts
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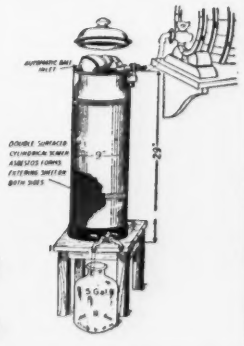


SCIENTIFIC FILTER CO., 1 Franklin Sq., New York City

Notes From An Editor's Diary

June 6th—

AN EXCURSION to a plant in America's lusty infant industry, the manufacture of aromatic chemicals.

Driving to Elizabeth nowadays is pleasant enough. First the cool rush of air and the crinkling echoes of Holland Tunnel, then the new boulevard, which winds past Newark's new airport and happily skirts the too popular streets of the city.

To-day's excursion was a group visit to the remodeled factory that was once Morana's and is now van Ameringen-Haebler's. First impression—no odor expensively advertising the factory site; second impression—after a year, grass *will* grow on citronella saturated ground. Inside the plant it was pleasantly cool (for June 6th). Centralized heating and automatic heat control saved this particular party from rout and demoralization.

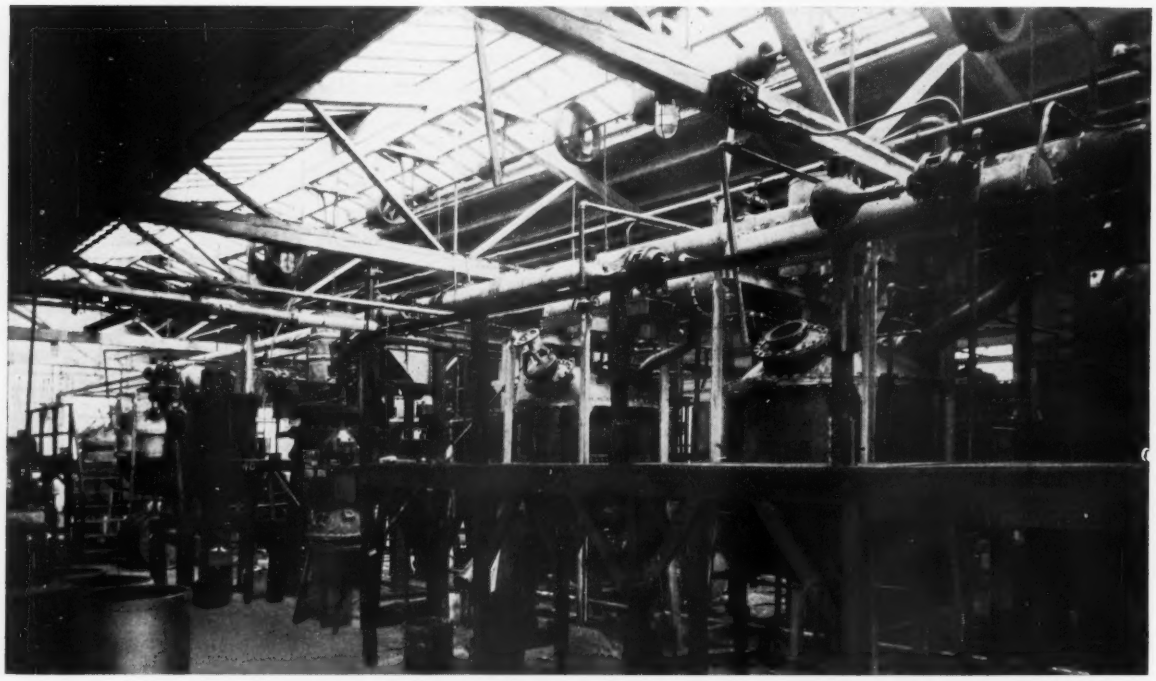
It is interesting to visit a plant that has come under new direction. Like a man with a new job, under a new company policy, a different personality, a new poise will emerge, reflecting the changed atmosphere in which he works.

So it is here. The rearrangement is complete—obviously so for labor saving in the arrangement of equipment. Production moves smoothly, few hands are multiplied by planning for convenient sequence.

We looked longingly at the re-cooling system. An engineer would probably have noted the economy of owning wells, re-cooling and recovering the water. To us the gurgling spray, the concrete pool, had only one attraction on this torrid day.

The manufacture of aromatic chemicals has graduated from the laboratory to the factory. The batteries of equipment, heat control, fire control, labor time studies—the records and methods which industry has discovered to chart the straightest and shortest line to finished production have seen to that.

But the laboratory reigns supreme in its check upon production, in its passport to raw materials, its inspiration to new methods and new products.



View of reaction stills

You Must See This Applicator Rod to Appreciate It

An all glass seal and applicator rod, moulded in one piece! There's no use describing its good looks, the ease with which it is removed from the bottle and used. You must see it and hold it in your hand to appreciate its distinctiveness!

Then there's the seal. The applicator rod screws into a thread which is moulded on the inside neck of the bottle, as easily as an outside thread is formed.

A very simple experiment will show you what other manufacturers have found, in using just the seal without applicator rod. No matter how difficult the product is to seal, Spring Stopper Seals hold tight on original closure and every reclosure.

May we send samples, in stock bottles, of applicator rods, or of bottle seals? Just tell us the nature of your product so proper gaskets may be included.

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Spring Stopper Co.

165 Broadway, New York

Patentee of bottle finishing devices applied to the various types of automatic bottle making machines. Patents in United States, Canada and Foreign Countries

Applicator Rods

Stopper Seals

PURITY

You will remember our little chat last month, and the word-pictures we drew for you focussing on the idea of whiteness as indicative of purity.

SNOW TOP is as good and as pure as it looks.

The raw material is secured from nature's workshop, of a composition that is ideal for the purpose of SNOW TOP quality. Passed through improvements and refinements of modern chemical and engineering skill, gained through many years of investigation and research, SNOW TOP *leaves our plant well nigh perfection. In fact, you will be surprised at the pains we take to insure a pure product.*

The result is SNOW TOP quality PRECIPITATED CALCIUM CARBONATE 99% pure and, of course, U. S. P.

It will be worth your while to investigate SNOW TOP.

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DO THESE "SNOW TOP" qualities interest you?

1 Uniformity
2 Color
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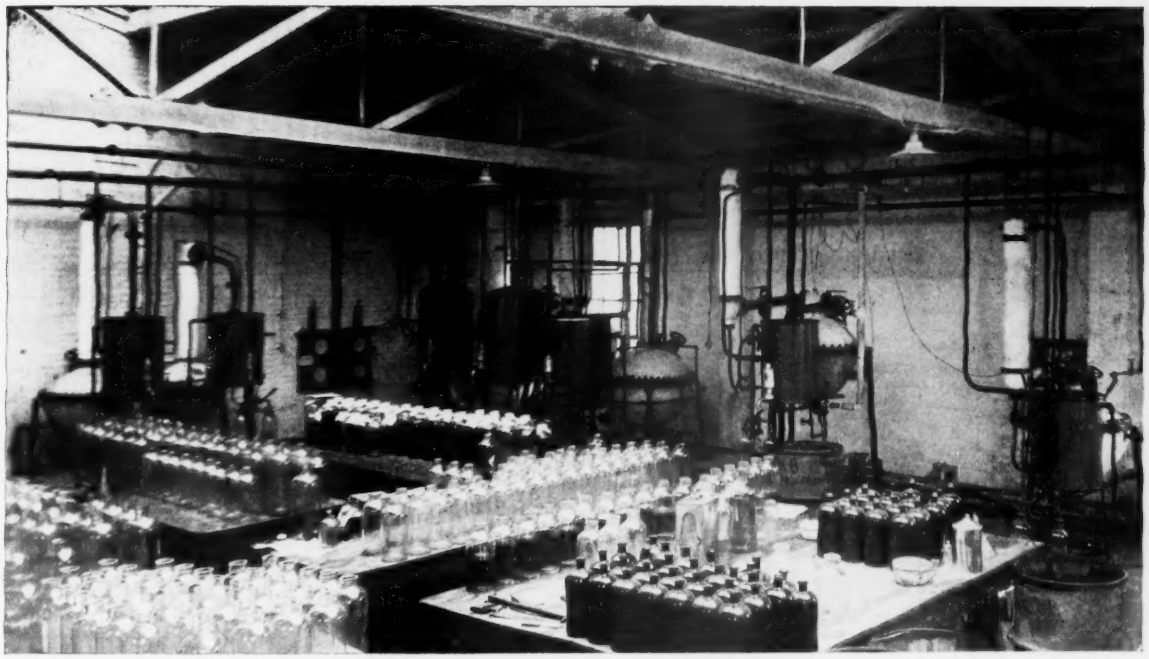

View of distillation department

To one who is not a chemist, a laboratory may consist of rows of tables holding weird shaped classware, or simply a series of boiling, fuming or freezing mixtures.

I meant to ask one of these chemists if he ever saw in that purple mass a field of wild flowers, or if while he waited for some reaction he dreamt and hoped that a hundred billion atoms would conspire to give him the quaint and lovely beauty of an old-fashioned garden. But then just as I started to interrupt an experiment, someone discovered a cooler filled with fresh raspberry juice and I never discovered what an aromatic chemist thinks about.

Review of Patents

(*Continued from page 599*)

for the recovery of the vitamins that are contained in them. The substances that are obtained in this manner can then be mixed together in suitable proportions. Dr. H. Aman, Muenchen, Germany. G. P. No. 483,394, filed Aug. 12, 1925.

Phorone and Semi-Phorone

The process of manufacturing phorone or semi-phorone consists in heating triacetone-dialcohol (symmetrical) for the purpose of first making semi-phorone. Then the latter is heated to a higher temperature or heated to a low temperature with small quantities of mineral acids for the production of phorone. Water-removing agents are used. I. G. Farbenindustrie A. G., Frankfurt-on-Main, Germany. G. P. No. 483,823, filed Jan. 17, 1926.

Cosmetic

The cosmetic medium consists of the concentrated liquors which are obtained in the treatment of lupine seeds for the removal of the nitter principles. This treatment consists in subjecting the seeds to the action of acid and alkali solutions. The products which are obtained are then mixed with the known preservative and perfumes generally used for this purpose. R. Rusteberg G.m.b.H., Danzig-Langfuhr, Germany. G. P. No. 484,139, filed March 17, 1927.

Phosphoric Acid Esters

Phosphoric acid esters of various carbohydrates and higher alcohols are made by treatment of the carbohydrates and alcohols with phosphorus pentoxide in the presence of tertiary bases. Societe Chimique des Usines du Rhone, Paris, France. G. P. No. 484,356, filed July 25, 1925.

Glucoside from Adonis Vernalis

This glucoside is difficulty soluble in water. The glucoside absorbent is treated with an extracting medium and the residue, left behind after the extracting medium has been evaporated, is then treated with ether and water. The oil that remains behind is again dissolved and the solution is introduced into a liquid, which mixes with the solvent and in which the glucoside is insoluble. The difficulty soluble glucoside, which is precipitated in this manner, is then purified in the usual manner. F. Hoffman La Roche & Co. A. G., Basel, Switzerland. G. P. No. 484,361, filed April 2, 1927.

Disinfectant

Calcium lactate or calcium bilactate is mixed with the aqueous or pure lactic acid while air is being passed through the mixture and is rubbed into a paste. J. Brandes, Frankfurt-am-Main, Germany. G. P. No. 484,385, filed Aug. 16, 1925.

Cibetone from Cibet

Cibetol, which is contained in cibet oil as well as in cibetone, is converted by oxidation into the ketonic compound. The oxidation is accomplished with the aid of chromic acid or catalytic dehydrating agents. Societe Anonyme M. Naef & Co., Genf-Plainpalais, Switzerland. G. P. No. 484,762, filed Jan. 18, 1927.

(*Continued on page 629*)

HEYDEN

FINE CHEMICALS

FINE HEYDEN CHEMICALS

SALICYLATES

Acid Salicylic
Acetyl Salicylic Acid
Methyl Salicylate
Sodium Salicylate
Minor Salicylates

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Magnesium
Manganese
Sodium
Calcium
Iron

Benzoate of Soda
Benzoic Acid
Benzaldehyde
Benzyl Chloride

Formaldehyde
Para Formaldehyde
Hexamethylenetetramine

Creosote
Creosote Carbonate
Guaiacol
Calcium Guaiacol Sulphonate
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Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment.

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Acetanilid
Ammonium Valerate

Chemicals

Monthly Review

American Glycerin Exports, Imports and Production

Exports of glycerin from the United States during the first quarter of 1930 aggregated 115,911 pounds, valued at $16,988 as against 546,619 pounds, with a value of $72,341 in the same period of 1929. During the 1930 first quarter, imports of crude glycerin amounted to 1,082,825 pounds, valued at $66,403, compared with 5,181,724 pounds, with a value of $308,406 in the corresponding period of 1929. Imports of refined glycerin totaled 318,178 pounds, valued at $13,797 in January-March, inclusive, 1930, against 1,959,862 pounds, valued at $181,486 in the January-March period, 1929. The following table shows the domestic production of glycerin during the first quarter of 1930.

	Crude 80% basis Pounds	Dynamite Glycerin Pounds	Refined Chemically Pure Pounds
Production	35,889,973	12,267,135	17,992,868
Factory and warehouse stocks (March 31, 1930)	14,617,409	10,221,071	6,920,710

The spot market on glycerine remains at 13½c per lb. with the market reported as dull as far as new business is concerned. There has been a noticeable improvement, however, as regards to shipments going forward against contracts. The summer months are usually dull months for this commodity but in spite of this fact the undertone is strong at prevailing figures so that with the coming of an increased demand prices will undoubtedly be stronger.

Bismuth Goes Lower

Bismuth metal, after a sharp break two months ago, has again become easier. Price has been reduced 10c per lb. and is now being offered at $1.10. Production of bismuth throughout the world has been on the increase which necessitated the Bismuth Association of London to lower their quotations. This country now produces most of its requirements of this commodity and the domestic producers keep their price slightly under the price for import.

The bismuth salts have again reflected the easier price for the raw material, reductions averaging about 15c per lb. The prevailing prices for the salts under the revision are: Ammon. citrate USP $3.25, betanaphtholate $2.90 citrate, USP $2.60, chloride $3.00, hydroxide $2.90, nitrate $1.25, oxide anhydrous $3.25, oxychloride $2.95, salicylate $1.65, subcarbonate USP $1.70, subcarbonate, x-ray $2.65, subgallate, USP $1.75, subiodide $4.10 subnitrate, USP $1.35, subsalicylate, USP $2.55. These price reductions have put the bismuth salts more in line with the price of the metal.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Acetanilid, USP, 200 lb bbls. lb	.36	.37	.37	.36	.37	.36
Acetone, pure 350 lb drs wks.	.12	.14	.14½	.12	.19	.14
Acetphenetidin, 225 lb bbls. lb	1.25	1.30	1.30	1.25	1.35	1.25
ACID, Acetylsalicylic, 225 lb bbls	.85	.90	.90	.85	.90	.85
Agaric, 1 oz vials oz	...	3.50	3.50	3.50	3.50	3.50
Arsenous, USP, 220 lb bbls lb	...	.18	.18	.18	.18	.18
Benzoic, USP, 100 lb bbls lb	.60	.61	.61	.60	.61	.60
Boric, 300 lb bbls lb	.09½	.10	.10	.07½	.10½	.07½
Cacodylic, 5 lb bot lb	...	8.00	8.00	8.00	8.00	8.00
Camphoric, USP, VIII 1 lb bot lb	4.82	4.82	4.82	4.82	4.82	4.82
Carbolic, USP, crys 112 lb tins lb	.17	.18	.18	.14	.19	.14
Cinnamic, 5 lb cans lb	3.25	3.50	3.50	3.25	3.50	3.25
Citric, USP, crys 230 lb bbl lb	...	.46	.46	.46	.46	.46
USP, crys imp. 112 lb keg lb	.65	.70	.70	.65	.61	.59
USP, powd 200 lb bbl lb	...	.47	.47	.47	.47	.47
Diethylbarbituric, 1 lb bot lb	4.00	4.50	4.50	3.80	4.60	4.60
Gallic, USP, 150 lb bbls lb	...	.74	.74	.74	.74	.74
Glycerophosphoric, 25% 1 lb bot lb	1.40	1.75	1.75	1.40	1.75	1.40
Hydriodic, USP, 10% 5 lb bot lb	...	.70	.70	.70	.80	.80
Hydrobromic, USP, 40% 155 lb. cbys lb	...	.55	.55	.55	.55	.55
Hypophosphorous, USP, 30% lb						
5 gal demis lb	...	.85	.85	.85	.85	.85
Lactic, USP, VIII 100 lb cbys lb	.53	.59	.62	.53	.62	.56
USP, X 100 lb cbys lb	.57	.59	.64	.57	.64	.62
Phenylcinchonic lb	...	3.25	3.25	3.25	4.50	4.50
Phosphoric, USP, Syr 70 lb drs lb	.14	.15	.15	.14	.15	.14
Pyrogallic, crys 5 lb cans lb	1.30	1.40	1.40	1.30	1.50	1.40
Resublimed, 5 lb cans lb	1.60	1.70	1.85	1.80	1.85	1.80
Salicylic, USP, 100 lb bbls lb	.40	.45	.45	.40	.40	.39
Succinic, 100 lb bbls lb	...	1.35	1.35	1.35	1.35	1.35
Sulfurous, USP, 6% 100 lb cbys lb	.05	.06	.06	.05	.06	.05
Tannic, USP, fluffy 50 lb bbls lb	.90	.93	.93	.82	.93	.85
Powd 200 lb bbls lb	.80	.85	.85	.80	.85	.80
Tartaric, USP, 300 lb bbls lb	.36	.37	.38½	.36	.38	.37½
Aconitine, Alk, crys 1 oz vials oz	...	30.00	30.00	30.00	30.00	30.00
Amorphous, 1 oz vials oz	...	20.00	20.00	20.00	20.00	20.00
Adeps Lanae, hyd 350 lb bbls lb	.14½	.15	.16	.14½	.16	.15
Anhydrous, 350 lb bbls lb	.15	.16	.18	.16	.18	.16
Agaricin, 1 oz vis incl oz	...	2.32	2.32	2.32	2.32	2.32
ALCOHOL, Benzyl, 5 lb bot lb	1.25	1.35	1.35	1.25	1.35	1.25
Ethyl, USP, 190 pf 50 gal bbls gal	2.69½	2.79½	2.79½	2.69½	2.79½	2.69½
Pure tax free gal	.61	.69	.69	.61	.69	.61
Grain drums gal	2.69	2.79	2.79	2.69	2.79	2.69
Denatured, drums add 7c for bbls						
No. 1 spec gal	.51	.59	.59	.50	.60	.47
1 comp gal	.52	.60	.60	.51	.61	.48
No. 5 comp gal	.51	.59	.59	.50	.60	.47
23 a, spec gal	.51½	.59½	.59½	.51½	.61½	.48½
39 b, spec gal	.52½	.63½	.63½	.51½	.71	.51½
40 m, spec gal	.48	.59	.59	.47	.66½	.47
Isopropyl refd 98-99% drs gal	1.30	1.60	1.60	1.25	1.50	1.25
Phenylethyl, 1 lb bot lb	4.30	4.50	4.50	4.30	10.00	8.00
Aloin, USP, 100 lb cases lb	1.73	1.78	1.95	1.73	1.95	1.25
Aluminum Acetotartrate kegs lb	...	1.60	1.60	1.60	1.60	1.60
Amidipyrine, 10 lb boxes lb	4.25	4.45	4.45	4.25	4.45	4.25
AMMONIUM, Acetate 100 lb kegs lb	.38	.40	.40	.38	.40	.30
Benzoate, USP, 1 lb bot lb	...	1.27	1.27	1.27	1.27	1.27
Borate, 10 lb bot lb	...	.35	.35	.35	.35	.35
Bromide, USP, 450 lb bbls lb	.47	.49	.49	.47	.50	.47
Imported, 112 lb boxes lb	.48	.50	.50	.48	.50	.48
Carb, USP, lump 100 lb kegs lb	...	.13½	.13½	.13½	.13½	.13½
USP, powd 100 lb kegs lb	...	.14½	.14½	.14½	.14½	.14½
Citrate, 100 lb kegs lb	.90	1.30	1.30	.85	.90	.85
Ichthyolate, as to brand lb	4.00	4.50	4.50	4.00	4.50	4.00
Iodide, USP, 25 lb jars lb	...	5.20	5.20	5.20	5.20	5.20
Phosphate, dibasic 250 lb bbls lb	.48	.50	.50	.48	.50	.43
Salicylate, USP, 100 lb kegs lb	1.15	1.20	1.20	1.15	1.20	1.15
Valerate, USP, 25 lb jars lb	2.75	2.90	2.90	2.75	2.90	2.75

Chemicals

{ Monthly Review }

Cinchona Crop Estimates for 1930—Java

The production of cinchona bark for the entire Netherland East Indies during 1930 is estimated at 10,285,902 kilos, divided 8,954,902 kilos and 1,331,000 kilos between Java and Sumatra respectively. The estimates are based on returns from 97 estates growing cinchona.

In Java the January production amounted to 641,718 kilos as compared with 80,516 kilos for Sumatra. (Trade Commissioner A. Brauer, Jr., Batavia.)

Cinchona in Madras

The Cinchona Department of Madras has been in existence for seventy years now, but as the Government of India intends to give effect to the recommendation of the Royal Agricultural Commission that the Department should be centralized, the Provincial Department may be absorbed in the Indian Department.

The object of the Department has throughout been to make India self-sufficing in the matter of quinine supply, and also if possible to reduce the price of quinine below the present controlled figure, states "Chemist & Druggist." Even if the reduction in prices below the present level were impossible, it would be no small gain if the requirements are satisfied at a price not higher than that of the imported drug. For over thirty years there has been in existence a system of distributing quinine through the agency of the post offices, and about 2,000 lbs. of quinine are thus annually disposed of.

A committee appointed by the Madras Government considered the question of reducing the issue price to stimulate demand, and it is recommended that the pice packet system should be abandoned altogether and in its place the system of selling "treatments" should be substituted. This latter system has been popular in Bengal for many years. By a "treatment" is meant a quantity of quinine in tablet form sufficient to allay an ordinary attack of malaria. In Madras the quantity of quinine required for a "treatment" has been calculated at 100 grains.

The recommendation has been accepted by Government and will be given effect to from July 1 next. Under this scheme, it is intended to supply post offices with simple tubes containing twenty tablets of five grains each and to sell these at five annas per tube. This represents a considerable reduction in price compared with the present rate for pice packets, and it is hoped that the treatment system will prove popular.

The cost of making suitable tubes and containers for "treatments" is relatively high, but if a Central Department is formed in India, it should be possible to institute a uniform treatment which can be issued even cheaper to the public. One of the main problems of maintaining the factory at an economic level of outturn is the supply of bark. The Madras plantations are mostly immature, and were all available bark harvested now, there is not a sufficiency to keep the factory working for more than two to three years. The Government of India have assisted the Madras factory during the past years with imported bark, and thus the production cost has been maintained at an economic figure. But the importation of bark has now

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Amylene Hydrate, 1 lb bot..lb.	...	7.10	7.10	7.10	7.10
Antipyrine, USP, 100 lb cans.lb.	2.65	3.00	3.00	2.65	3.00	1.53
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70	22.70	22.60	22.70	22.60
Arecoline Hydrobrom, 1 oz vials .....oz.	7.75	8.75	8.75	7.75	8.75	7.75
Aspidospermine Amorphous.oz.	...	15.00	15.00	15.00	15.00	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00	9.10	6.50	9.10	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00	25.00	25.00	25.00	25.00
Sulfate, 5 oz cans.....oz.	...	3.00	3.00	3.00	3.00	3.00
Single ounce.....oz.	...	3.15	3.15	3.15	3.15	3.15
Barium Iodide, 5 lb box.....lb.	...	5.15	5.15	5.15	5.15	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10	.10	.09½	.10	.09½
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80	.90	.75	.90	.85
Domestic syn. 50 gal bbl..gal.	.70	.75	.75	.70	.75	.70
St. Thomas, 50 gal bbls...gal.	.80	.90	.90	.80	.90	.80
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60	2.60	2.50	2.60	2.50
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05	1.05	1.00	1.00	1.00
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40	1.40	1.20	1.40	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35	.35	.30	.35	.30
Formate, 1 lb bot.....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Succinate, 160 lb cby.....lb.	...	5.25	5.25	5.25	5.25	5.25
BISMUTH, metal 100 lb cases .....lb.	...	1.10	1.70	1.10	1.70	1.70
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25	5.50	3.25	5.50	5.50
Betanaphtholate, 5 lb box.lb.	...	2.90	3.10	2.90	3.10	3.10
Citrate, USP, 5 lb cans....lb.	...	2.60	2.75	2.60	2.75	2.75
Chloride.....lb.	...	3.00	3.15	3.00	3.15	3.15
Hydroxide.....lb.	...	2.90	3.05	2.90	3.05	3.05
Nitrate, 25 lb jars.....lb.	...	1.25	1.80	1.25	1.80	1.80
Oxide anhydrous.....lb.	...	3.25	3.40	3.25	3.40	3.40
Oxychloride, 25 lb boxes...lb.	...	2.95	3.10	2.95	3.10	3.10
Salicylate, 25 lb boxes.....lb.	...	1.65	1.80	1.65	1.80	1.80
Subcarbonate, USP, 25 lb boxes.....lb.	1.70	1.75	2.20	1.70	2.20	2.20
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.65	2.72	3.45	2.65	3.45	3.45
Subgallate, USP, 25 lb boxes .....lb.	1.75	1.80	2.50	1.75	2.50	2.50
Subiodide, 5 lb lots.....lb.	...	4.10	4.25	4.10	4.25	4.25
Subnitrate, USP, 25 lb jar.lb.	1.35	1.40	1.60	1.35	1.65	1.58
Subsalicylate, USP, 25 lb boxes.....lb.	2.55	2.60	2.90	2.55	2.90	2.90
Tannate.....lb.	...	2.30	2.65	2.30	2.65	2.65
Borax, crys USP, 400 lb bbls.lb.	...	.06	.06	.06	.06	.03½
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90	1.90	1.65	1.90	1.65
Butylchloral Hydrate bot....lb.	4.00	5.00	5.00	4.00	5.00	4.00
Cadmium iodide, 10 lb bot...lb.	...	4.55	4.55	4.55	4.55	4.45
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	2.75	2.80	2.80	2.75	2.95	2.75
Citrated, 50 lb cans.....lb	2.20	2.45	2.60	2.20	2.60	2.00
Hydrobromide, 1 lb bot...lb.	4.80	5.00	5.00	4.80	5.00	4.80
Hydrochloride, 1 lb bot...lb	6.05	6.55	6.55	6.05	6.55	6.05
Sulfate, 1 lb bot.....lb.	5.40	5.90	5.90	5.40	5.90	5.40
Sodium Benzoate, tins....lb.	...	3.05	3.05	3.05	3.05	3.05
Salicylate, tins.....lb.	...	2.95	2.95	2.95	2.95	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60	.60	.60	.60	.60
Carb, USP, 175 lb bbls....lb.	.05	.06	.06½	.04½	.06½	.04½
Glycerophos, 250 lb bbls...lb.	...	1.40	1.40	1.40	1.40	1.40
Hypophos, USP, 25 lb cans lb.	.60	.65	.65	.60	.65	.60
Iodide, 5 lb bot.....lb.	...	4.85	4.85	4.35	4.35	.35
Lactate, USP, 500 lb bbls lb.	.45	.50	.50	.45	.50	.45
Lactophosphate Soluble...lb.	...	1.20	1.20	1.20	1.20	1.20
Powdered tins.....lb	...	1.00	1.00	1.00	1.00	1.00
Insol, powd tins.....lb.	...	.50	.50	.50	.50	.50
Sulfide, USP, 100 lb drs...lb.	.21½	.24	.24	.21½	.24	.21½
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.60	.61	.64	.60	.64	.59½
Refined powd.....lb.	.62	.63	.66	.62	.66	.63
½ oz tab, 100 lb cases....lb.	.72	.73	.77	.72	.77	.73
Liniment, bbls.....gal.	2.20	2.30	2.30	2.20	2.30	2.20
Monobrom, 100 lb cases...lb.	1.85	1.90	1.90	1.85	1.90	1.85
Casein edible, 100 lb kegs...lb.	.45	.55	.55	.45	.55	.45
Charcoal Animal medicinal jars incl.....lb.	...	.50	.50	.50	.50	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07	.07	.05½	.06	.05½
Chloroform, USP, 50 lb drs...lb.	.25	.27	.27	.25	.30	.25
Chloral Hydrate, USP, 25 lb jars.....lb.	.78	.80	.80	.75	.80	.75
100 lb drums.....lb.	.73	.75	.75	.55	.75	.70
Cholesterin.....oz.	5.50	5.85	5.85	5.50	5.85	5.50
Chromium Sulfate Scales, tins .....lb.	.45	.50	.60	.45	.60	.55
Powdered tins.....lb.	.50	.55	.65	.50	.65	.60
Chrysarobin, 50 lb tins.....lb.	3.75	4.10	4.10	3.75	4.25	3.75
Cinchonine Alk, 100 oz tins.oz.	...	.38	.38	.38	.38	.38
Crystal.....oz.	.43	.46	.46	.43	.68	.65
Sulfate, 100 oz tins.....oz.	...	.25	.25	.25	.25	.25
Cinchonidin Sulfate, 100 oz tins .....oz.	.35	.35	.35	.35	.35	.35
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07	11.07	11.07	11.07	11.07
Hydrochloride, USP,.....oz.	...	8.50	8.50	8.50	8.50	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	11.87	11.87	11.87	11.87	10.37
Hydrobromide.....oz.	...	8.92	8.92	8.92	8.92	8.92
Hydrochloride.....oz.	...	10.87	10.87	10.87	10.87	9.87
Nitrate, oz vl 10 oz lots....oz.	...	9.80	9.80	9.80	9.80	8.30
Phosp, oz vl, 10 oz lots....oz.	...	9.42	9.42	9.42	9.42	7.92
Salicylate.....oz.	...	8.25	8.25	8.25	8.25	6.75
Sulfate, oz vl, 10 oz lots...oz.	...	9.67	9.67	9.67	9.67	8.42

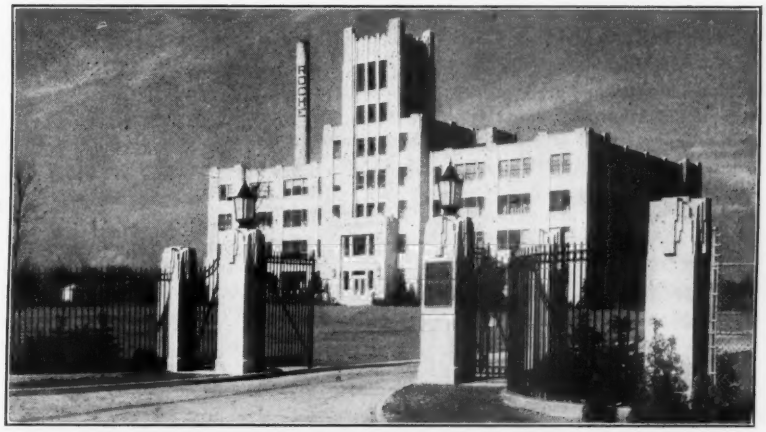
'Roche' Fine Chemicals

BARBITAL

QUININE and SALTS

SAPONIN

Arecoline
Atropine
Brucine
Quinidine
Cinchonine
Cinchonidine
Colchicine
Digitalin



Emetine
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{ *Monthly Review* }

ceased entirely, and it is therefore difficult to see how production can be kept down to a trading level.

If centralization is established in the very early future, a scheme of harvesting on the various State plantations in India can be arranged to keep both the Madras and Bengal factories working satisfactorily. But if it is decided that the Madras Cinchona Department is to remain a provincial concern, assistance from the Government of India is necessary, either by the produce of the Burma plantation or alternatively by permitting the Madras Government to import bark from Java for a few years, until the plantations of Madras come into full bearing. Until a plentiful supply of bark can be obtained, the working of the factory was restricted to the economic figure of output, viz, 22,000 lbs. of quinine sulphate, 38 lb. quinine hydrochloride, and 16,000 lbs. cinchona febrifuge and tablets.

Alcohol is Competitive

Alcohol is in the dull season. Production is well sold up for the large consuming season ahead but it is problematical whether this business has been booked at prices entirely satisfactory to the distillers. Competition is still exceedingly keen for what business still remains uncovered with price cutting resorted to in many instances. Distillers are confining their efforts at present to maintaining prices as nearly steady as possible.

Decline in Value of Danish Consumption of Medicinal Products

According to Commercial Attache H. Sorensen, Copenhagen, the sale of pharmaceutical preparations in Denmark in 1928 amounted to about 28,500,000 crowns as against 31,500,000 crowns in 1925 (Average value of crown in above two years was $0.2674 and $0.2113 United States currency.) Sales by prescription in 1928 totaled 15,346,000 crowns as compared with 16,008,000 crowns three years earlier, while other sales were valued at 13,267,000 crowns in 1928 as against 15,445,000 crowns in 1925. These figures reveal a slow general decline in the consumption value of medicinal goods, attributed to strict regulations governing medicinal sales, opposition of pharmacists and physicians to certain proprietary medicines in deference to articles of their own manufacture, and indifference of the public.

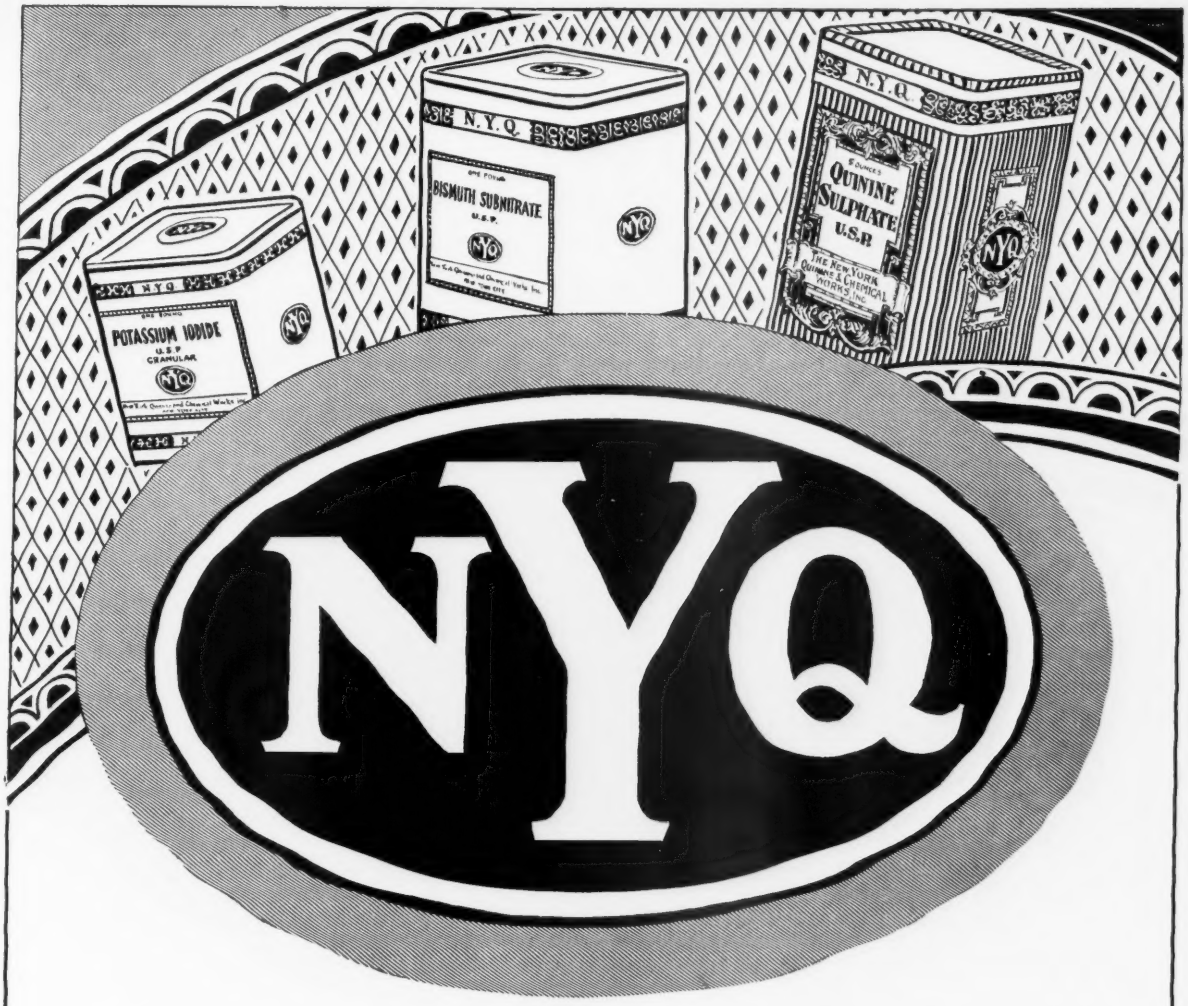
Roughly speaking, about 20 per cent. of the turnover in pharmaceutical preparations are proprietary medicines.

Switz Pharmaceuticals

Declared exports of pharmaceuticals to the United States from Basel, Switzerland, which region accounts for the bulk of the trade, were valued at $101,000, a decrease of about 40 per cent. compared with the value of $164,000 for the March quarter of 1929.

The production of Basel pharmaceutical firms about equaled the output during the same period of 1929. Vice Consul A. W. Scott, Basel.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Colchicino Alk, USP, 1 oz vl	oz.	...	20.00	20.00	20.00	20.00
Salicylate, 1 oz vls	oz.	...	35.50	35.50	35.50	35.50
Cream Tartar, USP, 300 lb bbls	lb.	.27½	.27½	.27½	.28	.26½
Imp. powd. 224 lb bbls.	lb.	.25½	.25¼	.25½	.27	.25¼
Creosote, USP, 42 lb cbys.	lb.	.45	.47	.47	.40	.42	.40
Carbonate, 150 lb	lb.	1.50	1.60	1.60	1.50	1.60	1.50
Cresol, USP, 400 lb drums	lb.	...	.20	.20	.20	.20	.20
500 lb drums	lb.	.14	.17	.20	.14	.20	.20
DIGITALIN Pure, 1 oz vial	oz	15.00	15.50	15.50	15.00	15.50	15.00
Dover's Powder, USP, 5 lb tin	lb.	2.75	2.80	2.80	2.45	2.50	2.45
Duboisine Sulfate, 1 oz vl	oz.	35.00	40.00	40.00	35.00	30.07	30.07
Emetine Alk, 15 gr vial	oz.	...	.85	.85	.85	.85	.85
Hydrochloride, USP, 1 oz vl	oz.	25.00	26.00	36.00	25.00	36.00	35.00
15 grain vials	oz.	2.50	2.70	2.70	2.50	2.70	2.50
Epsom Salts, USP, 200 lb bbls	100 lb.	2.25	2.50	2.50	2.25	2.50	2.25
Imp. 100 lb bbls	100 lb.	2.30	2.35	2.35	1.95	2.00	1.95
Ergotin Bonjean, 1 lb jars	lb.	18.50	19.00	19.00	18.50	19.00	18.50
Eserine Alk, 1 oz vials	oz	...	50.00	50.00	50.00	50.00	50.00
Salicylate, 1 oz vials	oz.	...	40.00	40.00	40.00	40.00	40.00
Sulfate, USP, VIII 1 oz vials	oz.	...	40.00	40.00	40.00	40.00	40.00
ETHER, USP, 55 lb drums	lb.	...	.16	.18	.16	.18	.18
Anaesthesia, 55 lb drums	lb.	.21	.23	.23	.21	.23	.23
Nitrous, 1 lb bot	lb.	...	.80	.98	.80	.98	.80
Ethyl Chloride, 200 lb bot	lb.	.22	.24	.24	.22	.24	.22
Ethyl Iodide, 5 lb bot	lb.	...	6.25	6.25	6.25	6.25	6.25
Formaldehyde, USP, 100 lb cbys	lb.	.09½	.09½	.10½	.09½	.10½	.09½
1c-1 wks	lb.	.20	.21	.21	.20	.21	.20
Gall Extract	lb.						
GLANDULAR SUBSTANCES							
Duodenal Substance, 1 lb lots		...	5.50	5.50	5.50	...	...
Liver Substance (Hepatic) 1 lb lots		...	4.50	4.50	4.50	...	...
Orchic Substance (Testicular)		...	4.75	4.70	4.75	...	...
Ovarian Substance, whole, 1 lb lots		...	26.00	26.00	26.00	...	...
Ovarian Residue, 1 lb lots		...	20.00	20.00	20.00	...	...
Pituitary Substance, whole 1 lb lots		...	40.00	40.00	40.00	...	...
Pituitary Substance, Anterior Lobe, 1 lb lots		...	27.00	27.00	27.00	...	...
Thyroid, U. S. P., 1 lb lots		...	4.75	4.75	4.75	...	...
Oxgall Powder, 1 lb lots		...	1.35	1.35	1.35	...	...
GLYCERIN, CP, 550 lb drums	lb.	...	.13½	.14	.13½	.15½	.13¾
Gold Chloride, bottles	oz.	12.00	12.50	12.50	12.00	12.50	12.00
Guaiacol, liq. USP. 100 lb. cbys	lb	1.65	1.75	1.75	1.65	1.75	1.65
Crystals	lb	2.25	2.50	2.50	2.25	2.50	2.25
Benzoate, 1 lb bottles	lb.	...	13.00	13.00	13.00	13.00	13.00
Carbonate, 5 lb boxes	lb.	1.70	2.50	2.50	1.70	2.50	1.70
Halazone, 5 lb bot	lb.	2.75	3.25	3.25	2.75	3.25	2.75
Hexamethylenetetramine, USP, 100 lb dr	lb.	.46	.47	.56½	.46	.62½	.48
Homatropine Hydrobrom USP.	oz.	...	14.50	14.50	14.50	14.50	14.50
5 oz and 1 oz vials	oz.	...	13.50	13.50	13.50	13.50	13.50
Hydrastine Alk, USP, 1 oz vial	oz.	20.50	21.00	21.00	20.50	21.00	20.50
Hydrochlide, USP, 1 oz vials	oz.	20.50	21.00	21.00	20.50	21.00	20.50
Sulfate, 1 oz vial	oz.						
Hydrastinine Hydrochloride, USP, 15 gr vials	oz.	22.50	23.00	23.00	22.50	23.00	22.50
Hydrogen Peroxide, USP, soln 375 lb bbls	lb.	...	40.00	40.00	40.00	40.00	40.00
Hyoscine Hydrobrom, USP, 1 oz vials	oz.	.03½	.04½	.04½	.03½	.04½	.03½
5 oz, 1 oz vials	oz.	...	35.00	35.00	13.57	13.57	13.57
Hyoscyamine Alk, crystals, 1 oz vials	oz.	13.07	13.57	13.57	13.07	13.57	13.57
Amorphous, 1 oz vial	oz.	...	25.07	25.07	25.07	25.07	25.07
Hydrobromide, USP, 1 oz vial	oz.	...	75.07	75.07	75.07	75.07	75.07
Sulfate, 1 oz vial	oz.	...	25.00	35.07	25.00	35.07	35.07
Hypoquinone, 100 lb kegs	lb.	...	25.07	25.07	25.07	25.07	25.07
ICHTHYOL, tins	lb.	4.00	1.20	1.25	1.20	1.25	1.20
Iodide Arsenous, 5 lb bot	lb.	...	4.25	4.25	4.00	4.25	4.00
Arsenous-Mercuric soln, 5 lb bot	ql	...	5.20	5.20	5.20	5.20	5.20
Iodine, crude, 200 lb kegs	lb.	4.35	.26	.26	.26	.26	.26
Resublimed, 10 lb tars	lb.	4.65	4.35	4.35	4.35	4.35	4.35
Tincture demis	gal.	...	4.70	4.70	4.65	4.70	4.65
Iodoform, powd 10 lb bot	lb.	...	4.50	4.80	4.50	4.80	4.50
Iron & Ammonium Citrate, USP, 50 lb cans	lb.	.65	6.50	6.50	6.00	6.00	6.00
Chloride, USP, lump 400 lb bbls	lb.	.06	.66	.66	.65	.66	.64
Citrate, USP, VIII 25 lb can	lb.	.94	.08	.08	.06	.08	.06
Hypophosphite, 5 lb cans	lb.	1.55	1.01	1.01	.94	1.01	.94
Iodide, 1 lb bottles	lb.	...	1.65	1.65	1.55	1.65	1.55
Phosphate, USP, 50 lb cans	lb.	...	4.28	4.28	4.28	4.28	4.28
& Potas Oxalate, 250 lb bbl	lb.	...	.69	.69	.69	.69	.69
Pyrophosphate, USP, 50 lb	lb.	.74	.45	.45	.45	.45	.45
& Sod Oxalate, 24 lb box	lb.	...	.80	.80	.74	.80	.74
Sulfate, USP, crys bbls	lb.	.04	.30	.30	.30	.30	.30
Ferrous dried bbls	lb.	...	.04½	.04½	.04	.04	.04½
Valerate, tins	lb.	2.75	.08	.08	.08	.08	.08
			3.00	3.00	2.75	3.00	2.75



Acetanilid
Bismuth Subnitrate
Bismuth Subcarbonate
Cinchonine
Cinchona Alkaloids
Cinchophen
Codeine Sulphate
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
Potassium Iodide
Quinine Sulphate
Quinidine
Thymol
Salicylates
Strychnine
Bromide of Soda
Bromide of Potash
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Silver Salts
Menthol-Y (trade mark reg.)
Vanillin

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{ Monthly Review }

Brazilian Carnauba Wax Production and Trade During 1929 Decreased

The value of Brazilian carnauba wax exports during 1929 were approximately $2,972,040, representing a decrease of about $442,000 or approximately 13 per cent. in the value of the 192 exports. A comparison of the quantity figures indicates that there was a decrease of approximately 8 per cent. in the total volume of exports of this product. The average per ton value f. o. b. Brazilian ports during 1929 was $462 as against $489 during 1928, indicating an approximate decrease of 6 per cent.

The following table shows the volume in kilos of carnauba wax exported through various Brazilian ports during 1929, as compared with the previous year, together with the approximate percentage of increase or decrease in volume of such exports during the later period:

	1928 Kilos	1929 Kilos	Per Cent.
Maranhao	27,973	19,840	—29
Island of Cajueiro	2,968,173	2,991,055	+10
Camocin	40,313	....	None 1929
Fortaleza (Ceara)	3,380,507	2,912,900	—14
Natal	86,814	73,437	—15
Pernambuco	164,041	214,407	+23
Bahia	243,625	175,620	—2
Rio de Janeiro	54,251	44,400	—18
Paranagua	5,975	....	None 1929
Total	6,980,762	6,432,686	

(Assistant Trade Commissioner J. Winsor Ives, Rio de Janeiro.)

Beeswax Exports from Santo Domingo Up

According to the latest Dominion official statistics, for 1927 and 1928, exports of beeswax from the Dominion Republic were 146,133 pounds, valued at $86,228, and 171,320 pounds, valued at $106,576, respectively. The United States takes practically the entire exportation. (Consul Reed Paige Clark, Santo Domingo.)

Canadians Increase Production of Medicinals and Toilet Preparations and Achieve Record

Medicinal, pharmaceutical, and toilet preparation production exclusive of soaps and washing compounds during 1929 was valued at $21,700,000, a gain of nearly 7 per cent. over the total for the preceding year, according to preliminary figures prepared in the Dominion Bureau of Statistics at Ottawa, and was the highest value recorded during the past five years.

The following table shows the value and other production details during the past five years:

Medicinal, Pharmaceutical and Toilet Preparations

Year	No. of Plants	Capital Employed	No. of employees	Salaries and wages
1925	151	18,279,302	2,770	3,411,676
1926	176	19,936,367	2,934	3,471,266
1927	184	20,066,320	3,135	3,785,724
1928	184	20,355,031	3,225	4,002,876
1929	179	21,698,090	3,263	4,358,668

Year	Cost of materials at works	Selling value of products at works	Value added by Manufacturing
1925	5,942,361	17,307,977	11,365,616
1926	6,956,098	19,607,985	12,651,887
1927	7,259,718	20,714,544	13,454,826
1928	7,202,018	21,842,642	14,640,624
1929	7,541,814	21,884,020	14,342,206

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Jalap Resin, USP lumps, 5 lb tins....lb.	...	4.00	4.00	4.00	4.00
Powdered, tins....lb.	...	4.65	4.65	4.65	4.65
Lead Acetate, USP, 100 lb kegs....lb.	.15	.18	.18	.15	.18	.15
Iodide, USP, VIII 5 lb bot.lb.	3.20	3.40	3.40	3.20	3.40	3.20
Lecithin, 5 oz jars....oz.	1.00	1.30	1.30	1.00	1.30	1.00
Licorice Ext Mass, cases....lb.	.19	.20	.20	.19	.20	.14
Compound powder, bbls...lb.	.11	.13	.13	.11	.13	.11
LITHIUM CARBONATE, 250 lb bbls....lb.	1.35	1.45	1.60	1.35	1.60	1.50
Citrate, USP, 100 lb kegs..lb.	...	1.70	1.70	1.70	1.70	1.70
Iodide, 5 lb bottles....lb.	...	5.65	5.65	5.40	5.40	5.40
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75	8.75	8.75	8.75	8.75
Magnesium Carbonate, USP, 100 lb bbls....lb.	.08	.09	.10½	.08	.12	.10½
English, oz blocks....oz.	.16	.18	.18	.16	.18	.16
Glycerophosphate, 5 lb tins....lb	3.20	3.25	3.25	3.20	3.25	3.20
Hypophosphite, 5 lb cans..lb	1.15	1.20	1.20	1.05	1.05	1.05
Salicylate, 100 lb kegs....lb	...	1.10	1.10	1.10	1.10	1.10
Stearate, bbls....lb.	.23	.25	.25	.23	.25	.23
Manganese Glycerophosphate, 5 lb tins....lb.	2.90	3.00	3.00	2.90	3.00	2.90
Hypophosphite, USP, VIII 5 lb cans....lb.	1.35	1.40	1.40	1.35	1.40	1.35
Iodide, 1 lb bottles....lb.	6.40	6.65	6.65	6.40	6.65	6.40
MENTHOL, USP, 60 lb cases....lb.	4.20	4.25	4.50	4.00	6.00	4.35
Synthetic, cases....lb.	3.00	3.25	3.25	3.00	3.25	3.00
Mercury Metal, 75 lb flasks...fl.	120.00	121.00	124.50	112.00	126.00	121.50
Bichloride, crys 25 lb box..lb.	...	1.81	1.81	1.81	1.81	1.81
Gran powd, 100 lb kegs..lb.	...	1.65	1.65	1.65	1.65	1.65
Bisulfate, 25 lb boxes....lb.	...	1.02	1.02	1.02	1.02	1.02
Blue Mass, 25 lb boxes....lb.	...	1.03	1.03	1.03	1.03	1.03
Powd, 25 lb boxes....lb.	...	1.04	1.04	1.04	1.04	1.04
Blue Ointment, USP, 50%, 25 lb cans....lb.	...	1.29	1.29	1.29	1.29	1.29
Mild 30%, 25 lb cans....lb.	...	.92	.92	.92	.92	.92
33 1/3% mercury....lb.	...	.94	.94	.94	.94	.94
Calomel, 50 lb boxes....lb.	...	2.05	2.05	2.05	2.05	2.05
English....lb.	2.75	2.80	2.80	2.75	2.80	2.75
Iodide, green, 25 lb jars....lb.	...	4.80	4.80	4.80	4.80	4.80
Red, USP, 25 lb jars...lb.	...	4.89	4.89	4.89	4.89	4.89
Yellow, USP, VIII, 25 lb jars....lb.	4.80	4.80	4.80	4.80	4.80	4.80
Red precip, USP, 25 lb boxes....lb.	2.17	2.17	2.17	2.17	2.17	2.17
Powd., USP, 25 lb boxes.lb.	2.17	2.17	2.17	2.17	2.17	21.7
White precip, USP, 25 lb boxes....lb.	...	2.20	2.20	2.20	2.20	2.20
Powd., USP, 25 lb boxes.lb.	...	2.25	2.25	2.25	2.25	2.25
Salicylate, 25 lb bot....lb.	...	2.32	2.32	2.32	2.32	2.32
With chalk, USP, 25 lb boxes....lb.	...	.93	.93	.93	.93	.93
Methanol, Pure 1c-1 drs....gal	...	.54	.57	.54	.57	.57
Methyl Salicylate, USP, 50 lb cans....lb.	.40	.42	.42	.40	.45	.40
Methylene Blue, USP, med 5 lb cans....lb	2.00	2.05	2.05	2.00	2.05	2.00
Milk powd, 150 lb bbls....lb.	.09	.12	.15	.09	.15	.14
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95	11.35	10.90	11.35	9.85
Acetate, 5 oz tins....oz.	8.75	8.80	9.35	8.75	9.35	7.85
Hydrobromide, 5 oz tins, 10 oz lots....oz.	8.75	8.80	9.35	8.75	9.35	7.85
Hydrochloride, 5 oz tins, 10 oz lots....oz.	8.75	8.80	9.25	8.75	9.25	7.85
Ethyl Hydrochloride, 5 oz tins 10 oz lots....oz.	...	10.85	10.85	10.85	10.85	9.35
Sulfate, 5 oz tins, 10 oz lots....oz.	8.75	8.80	8.85	8.75	8.85	7.85
Naphthalene Flake, 175 lb bbls wks....lb.	.04½	.05	.05	.04½	.05	.04½
Balls, 250 lb bbls wks....lb.	.05½	.06	.06	.05½	.06	.05
Oxgall, Purified, 5 lb bot....lb.	1.75	2.50	2.50	1.75	2.50	1.75
USP, 5 lb bot....lb.	2.00	2.50	2.50	2.00	2.50	2.00
Oxyquinoline Sulfate, tins...lb.	8.50	9.25	9.25	8.50	9.25	8.50
Pancreatin, USP, 100 lb....lb.	...	1.90	1.90	1.90	1.90	1.90
Paraffin, refd, 200 lb cs slabs 118-120 deg MP....lb.	.08	.09	.09	.08	.09	.08
128-132 deg MP....lb.	.07½	.07½	.07½	.07½	.07½	.07½
Para-Aldehyde, USP, 100 gal drums....lb.	.67	.77	.77	.67	.77	.67
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25	2.25	2.25	2.25	2.25
100 lbs. 1:6000....lb.	...	4.00	4.00	4.00	4.00	4.00
100 lbs. 1:10000....lb.	...	6.50	6.50	6.50	6.50	6.50
Peptone, powd, 5 lb bot....lb.	...	...	...	...	...	...
PHENOLPHTHALEIN, USP, 100 lb drums....lb.	1.10	1.20	1.20	1.10	1.20	1.10
5 lb cans 100 lb lots..lb.	1.23	1.30	1.30	1.23	1.30	1.23
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots....oz.	...	3.25	3.25	3.25	3.25	3.25
Nitrate, 25 oz lots....oz.	...	3.25	3.25	3.25	3.25	3.25
Single ounce....oz.	...	3.50	3.50	3.50	3.50	3.50
Alkaloid, 15 gr vials....vl.	...	.75	.75	.75	.75	.75
Piperazine Hydrate, 1 lb bot.lb.	...	15.00	15.00	15.00	15.00	15.00
Piperadine, 25 oz bottles....lb.	...	8.00	8.00	8.00	8.00	8.00
Popodhyllin 5 lb bottles....lb.	4.35	4.50	4.50	4.35	4.50	4.35
Potassium Acetate, USP, 100 lb kegs....lb.	.29	.30	.30	.29	.30	.29
Bicarb, USP, crys 320 lb bbls....lb.	.09½	.10	.13½	.09½	.13½	.08½
Bromide, USP, crys 100 lb cs....lb.	.42	.43	.43	.42	.40	.39
Citrate, USP, 50 lb bbl....lb.	.51	.53	.53	.51	.55	.51
Guaiacol Sulfonate....lb.	1.95	2.25	2.25	1.95	2.25	1.95

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{ *Monthly Review* }

Cod Liver Demand Light

The immediate demand for cod liver oil in the spot market is light. The total number of cod caught since the opening of the fishing season is 58,644,000. This compares with 70,604,000 cod for the same period last year. The yield of steam refined oil is 76,655 hectol. which compares with 84,471 hectol. for the corresponding period last year. The Finmarken fishing is reported as continuing to be poor with the market quiet.

The requirements for this market have now been fairly well taken care of at attractive prices for future delivery. There is no change in spot quotations.

Philippine Tax on Importation of Saccharin

The Council of Hygiene has indorsed the plan put forward by Dr. Eusebio Aguilar, Assistant Director of the Philippine Health Service, to impose a prohibitive tax on the importation of saccharin to prevent its use by the manufacturers of soft drinks, by bakeries, etc., who are at present using it in place of sugar.

This matter will probably come up at the next session of the Legislature for enactment into law. The Legislature meets July 16. (Trade Commissioner G. C. Howard, Manila.)

Sicily Citric Exports Off

Sicilian exports of citric acid during 1929 aggregated 2,615,273 kilos, valued at 42,785,865 lire, compared with 3,156,695 kilos, valued at 49,797,023 lire for 1928, reports Consul H. K. Travers, Palermo. (Average value of lire in 1928—$0.0526; in 1929—$0.0523 United States currency). The following table shows the amount, destination, and value of shipments in 1929 of Sicilian citric acid to the principal markets.

Destination	*Kilos*	*Value in Lire*
France	433,535	7,128,780
Germany	570,225	6,119,627
Great Britain	594,405	9,649,041
Argentina	215,200	3,605,520

Rumanian Drug Market

Although no less than 80 per cent. of Rumania's population of some 17,000,000 are peasants of very simple habits and frugal tastes, and, consequently, the consumption of more expensive products is restricted to the urban population of some 3,500,000, Rumania offers a fair market for general cosmetics.

Rumanian women, noted in eastern Europe for their beauty, are extensive users of cosmetics and the demand for such has been steadily increasing, especially in recent years. Cosmetics are used among the men in the urban centers to a more general extent than is customary in other countries.

Leading dealers estimate the total annual consumption of cosmetics in Rumania between $5,000,000 to $6,000,000. According to United States export statistics, shipments to Rumania for the past three years have been valued at $4,600, $10,000 and $11,200, respectively. (Consul J. Rives Childs, Bucharest.)

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Potassium Hypophosphite, 10 lb. cans ..... lb.	.80	.85	.85	.80	.85	.80
Iodide, USP, 100 lb cases .. lb.	3.25	3.30	3.30	3.25	3.55	3.25
Lactophosphate, 4 ox bot .. lb.	...	.90	.90	.90	.90	.90
Permangan, USP, crys, 100 lb drs wks ..... lb.	.15	.15½	.15½	.15	.15½	.15
Phosphate dibasic pure, kegs ..... lb.	...	.49	.49	.49	.49	.49
Salicylate, 25 lb cans ..... lb.	...	1.18	1.18	1.18	1.18	1.18
Sulfate, USP, VIII, 100 lb kegs ..... lb.	.13	.15	.15	.13	.15	.13
Sulfocyanide, CP 15 lb jars lb.	...	.50	.50	.50	.50	.50
Tartrate, CP, tins ..... lb.	...	.65	.65	.65	.65	.65
Pyrogallol, USP, see Acid Pyrogallic	...	...	...	...	...	...
Quinidine Alk, 100 oz tins .. oz.	.70	.75	.75	.70	.75	.70
Sulfate, 100 oz tins ..... oz.	...	.50	.50	.50	.50	.50
QUININE SULFATE, USP, 100 oz tins ..... oz.	...	.40	.40	.40	.40	.40
1 oz tins, 100 oz lots .... oz.	...	.47	.47	.47	.47	.47
Dutch, 100 oz tins ..... oz.	...	.40	.40	.40	.40	.40
Java, 100 oz. tins ..... oz.	...	.40	.40	.40	.40	.40
Japanese 100 oz tins ..... oz.	...	.40	.40	.40	.40	.40
Acetate ..... oz.	...	.74	.78	.74	.78	.78
Arsenate ..... oz.	...	.76	.78	.76	.78	.78
Benzoate ..... oz.	...	.74	.78	.74	.78	.78
Bisulfate, USP ..... oz.	...	.40	.40	.40	.40	.40
Resale ..... oz.	...	.39	.39	.39	.39	.37
Citrate ..... oz.	...	.51	.51	.51	.51	.51
Dicarbonate, 1 oz tins .... oz.	...	2.56	2.56	2.56	2.56	2.56
Dihydrobromide ..... oz.	...	.54	.54	.54	.54	.54
Dihydrochloride, USP .... oz.	...	.54	.54	.54	.54	.54
Ethyl Carbonate, 16 oz tins ..... oz.	...	.70	.70	.57	.58	.58
Ferrocyanide ..... oz.	...	.74	.78	.74	.78	.78
Formate ..... oz.	...	.73	.73	.73	.73	.73
Glycerophosphate ..... oz.	...	.72	.80	.72	.80	.80
Hydrobromide, USP ..... oz.	...	.50	.50	.50	.50	.50
Hydrochlorosulfate ..... oz.	...	.50	.54	.50	.54	.54
Hydrochloride & Urea, USP ..... oz.	...	.74	.74	.74	.74	.74
Hypophosphite ..... oz.	...	.70	.70	.70	.70	.70
Lactate ..... oz.	...	.66	.66	.66	.66	.66
Phenolsulfonate ..... oz.	...	.78	.78	.78	.78	.78
Phosphate ..... oz.	...	.62	.62	.62	.62	.62
Salicylate, USP ..... oz.	...	.52	.52	.52	.52	.52
Tannate, USP ..... oz.	...	.41	.41	.41	.41	.41
Tartrate ..... oz.	...	.74	.78	.74	.78	.78
Valerate ..... oz.	...	.78	.78	.78	.78	.78
& Urea Hydrochloride, USP ..... oz.	...	.88	.88	.88	.88	.88
Rennet, N. F. 5 lb 1:25,000 .. lb.	2.95	3.50	3.50	2.95	3.50	2.95
Resorcinol, USP, 25 lb cans .. lb.	1.60	1.65	1.65	1.60	1.75	1.65
Rochelle Salt, USP, 225 lb bbl ..... lb.	.22	.22½	.23½	.22	.23½	.23
Imp. USP, 300 lb bbls ..... lb	...	.23	.23	.23	.23	.23
Rock Sugar, 5 lb boxes ..... lb.	...	.15	.15	.15	.15	.15
Saccharin, USP, 10 lb cans ... lb.	1.70	1.80	1.80	1.70	1.80	1.70
USP, Soluble, 10 lb cans ... lb.	1.75	1.85	1.85	1.75	1.85	1.75
Salicin, USP ..... lb.	...	12.50	12.50	9.31	9.31	4.86
SALOL, USP, 100 lb drums .. lb.	...	.90	.90	.90	.90	.90
Saltpetre, powd, bbls wks .... lb.	.06½	.08½	.08½	.06½	.08½	.06½
Santonin, USP, bulk ..... lb.	123.00	133.00	133.00	129.50	129.50	129.50
Saponin, refined ..... lb.	1.30	1.50	1.30	1.50	1.30	1.30
Siedlitz Mixture, 250 lb bb .. lb.	...	.17½	.17½	.17½	...	...
Silver Metal, American ..... oz.	...	.42½	.57½	.42½	.57½	.57½
Iodide, 16 oz lots ..... oz.	...	.69	.69	.69	.69	.69
Nitrate, 100 oz bottles .... oz.	.32½	.34½	.42½	.32½	.42½	.40½
Nucleinate, bulk ..... oz.	...	.37	.37	.37	.37	.37
Proteinate ..... oz.	.39	.41	.41	.32	.32	.32
SODIUM BENZOATE, USP, 100 lb bbls ..... lb.	.45	.49	.49	.45	.49	.45
Bromide, USP, 100 lb kegs .lb.	.42	.43	.43	.42	.43	.42
Cacodylate, USP, 25 lb bot ..... lb.	4.75	5.90	5.90	4.75	5.90	4.75
Citrate, USP, X 50 lb kegs .lb.	.45	.47	.47	.45	.47	.45
USP VIII, 50 lb kegs .... lb.	.38	.40	.40	.38	.40	.38
Glycerophosphate, USP, crys 25 lb cans ..... lb.	1.40	1.55	1.55	1.40	1.55	1.40
Powder, 25 lb tins ..... lb.	1.45	1.60	1.60	1.45	1.60	1.45
Soln, USP, 25 lb tins .... lb.	1.05	.120	1.20	1.05	1.20	1.05
Hypophosphite, USP, 25 lb cans ..... lb.	.70	.75	.75	.70	.75	.70
Iodide, USP, 25 lb jars .. lb.	4.25	4.30	4.30	4.25	4.30	4.25
Phosphate (Mono-Sodium), 100 lb kegs ..... lb.	.30	.31	.31	.30	.31	.30
Di-Sodium USP, granular, 275 lb bbls ..... lb.	.07½	.08	.08	.07½	.08	.07½
Pyrophosphate, 100 lb kegs ..... lb.	...	.29	.29	.29	.29	.29
Salicylate, 100 lb kegs .... lb.	...	.47	.47	.47	.47	.47
Sulfocarbolate, USP, 100 lb kegs ..... lb.	...	.31	.31	.31	.31	.31
Sulfocyanate, CP crys, jars included ..... lb.	...	.60	.60	.60	.60	.60
Spartein Sulfate, USP, 25 oz bulk ..... oz.	.65	.70	.70	.65	.70	.60
Single oz vial ..... oz.	.77	.90	.90	.77	.90	.77
STRONTIUM BROMIDE USP, 50 lb kegs ..... lb.	.51	.52	.52	.51	.52	.51
Carb, 100 lb kegs wks .... lb.	...	.20	.20	.20	.20	.20
Iodide, USP, 25 lb jars .... lb.	...	4.00	4.00	4.00	4.00	4.00
Lactate, kegs ..... lb.	.90	1.10	1.10	.90	1.10	.90
Nitrate, 600 lb bbls NY ... lb.	.08	.08½	.08½	.08	.08½	.08
Imp. bbls NY ..... lb.	.08	.08½	.08½	.08	.08½	.08
Salicylate, USP, 100 lb keg lb.	...	1.10	1.10	1.10	1.10	1.10

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{ *Monthly Review* }

Menthol Dull

Menthol is quoted spot at $4.20 to $4.25 per lb. with the market reported as dormant. While the future trend of this commodity is difficult to predict, the present shows no indications of strength. New crop of peppermint oil will soon be available in the Japanese market. Prices for menthol are usually depressed during the period in which the Japanese purchase their raw material. This, to a great extent, has caused buyers of menthol to withhold placing orders so as to avail themselves of possible reductions. Stocks here are ample and new business scarce with buyers showing very little interest. The price for import remains unchanged.

Mercury Price Recovers

The price of mercury has shown an upward tendency during the past month, quotations advancing to $120 and $121 per flask. Stocks are coming in more freely from the coast so that a temporary reaction is looked for. However, the predominant characteristic of the market is one of strength. As demand continues to be active this material will quickly disappear with the upward tendency continuing. The monopoly abroad is in possession of large supplies of metal which is available for shipment to this country but their price continues to be considerably above that for domestic mercury.

More Glandular Imports

Substantial increases are noted in the exports to the United States from Argentina of gall stones, animal glands, and ox gall, which are shown in the following table:

	1928		1929	
	Pounds	*Value*	*Pounds*	*Value*
Gall stones	68	$1,977	115	$3,815
Animal glands	66,146	8,900	122,762	20,700
Ox gall	8,755	1,125	39,231	10,025

(Vice Consul Roger Sumner, Buenos Aires.)

Chile purchases abroad fairly large quantities of medicinals, toilet preparations, and the essential raw materials that enter into their manufacture. The aforementioned products in recent years has constituted on an average 20 per cent. of Chile's total chemical imports as is revealed in the following table, which shows the imports of the subject products contrasted with the total chemical import trade during 1923, 1927, and 1929.

Classification	*1923*	*1927*	*1928*
Medicinal and pharmaceutical preparations	$388,000	$1,018,000	$1,437,000
Essential oils, synthetic aromatics	68,000	174,000	285,000
Perfumery, cosmetics, toiletries	98,000	253,000	282,000
Crude drugs, waxes, natural dyes, botanicals	16,000	68,000	53,000
Other	1,738,000	5,712,000	7,227,000
Total	$2,308,000	$7,225,000	$9,344,000

Rather higher prices are cabled from Japan for Agar-agar. Kobe No. 1 is offered at 3s. 10½d. c.i.f. for May-June shipment and No. 2 at about 3s. 7½d. c.i.f. Spot prices are unchanged at 4s. 3d. for Kobe No. 1 and 4s. for No. 2. "Chemist and Druggist".

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Strophanthin, USP, 1 oz vial oz.	19.00	19.00	19.00	19.00	19.00
Crystals lb.	75.00	75.00	75.00	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins oz.	...	.61	.66	.61	.66	.61
Powdered oz.	...	.51	.56	.51	.56	.51
Acetate oz.	...	.65	.65	.65	.65	.65
Arsenate, 25 oz cans oz.	...	.65	.65	.65	.65	.65
Glycerophosphite, USP, oz.	...	.65	.65	.65	.65	.65
Hydrobromide oz.	...	.65	.65	.65	.65	.65
Hydrochloride oz.	...	.65	.65	.65	.65	.65
Hypophosphite oz.	...	.75	.75	.75	.75	.75
Nitrate, USP oz.	.55	.72	.72	.55	.72	.55
Phosphate oz.	...	.65	.65	.65	.65	.65
Sulfate, USP, powd oz.	...	.42	.42	.42	.56	.42
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90	5.90	5.80	5.90	5.80
Milk, USP, 200 lb bbls lb.	.18	.20	.20	.18	.20	.18
Sulfonethylmethane, USP, 10 lb boxes lb.	3.85	4.05	4.05	3.85	4.05	3.85
Sulonmethane, USP, 10 lb box lb.	2.65	3.85	3.85	2.65	3.85	2.65
Sulfur flwrs. washed, USP, 125 lb bbl lb.	...	.06	.06	.06	.06	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55	4.55	4.55	4.55	4.55
TARTAR EMETIC, USP, 300 lb bbls lb.	.33	.35	.35	.29	.31	.29
Terebene, tins lb.	...	.85	.85	.85	.85	.85
Terpin Hydrate, USP, 100 lb kegs lb.	.39	.41	.42	.39	.42	.40
Theobromine Alk, 5 lb cans lb.	1.90	2.25	2.25	1.90	2.25	1.90
Sod. Salicylate, 1 lb bot lb.	...	2.10	2.10	2.10	2.10	2.10
Sod. Benzoate, 1 oz vials oz.	...	1.00	1.00	1.00	1.00	1.00
Thymol, USP, 25 lb tins lb.	2.00	2.25	2.70	2.00	2.70	2.25
Iodide kegs lb.	6.00	7.00	7.00	6.00	7.00	6.00
Veratrine Alkaloid oz.	...	2.25	2.25	2.25	2.25	2.25
Sulfate, 1 oz vials oz.	...	2.25	2.25	2.25	2.25	2.25
Witch Hazel Ext., 50 gal bbl gal.	.60	.80	1.00	.60	1.00	.80
Zinc Carb, USP, 100 lb keg lb.	.28	.31	.31	.28	.31	.28
Chloride, USP, 25 jars ex lb.	.24	.29	.29	.24	.29	.24
Iodide, 5 lb bottles lb.	...	5.22	5.22	5.22	5.22	5.22
Oxide, USP, 100 lb bbls lb.	.13	.14	.17½	.13	.18	.16½
Stearate, USP, 50 lb bbl lb.	.24	.26	.26	.24	.26	.24
Sulfate, USP, 100 lb bbl lb.	.08	.09	.09	.08	.09	.08
Sulfocarbolate, 100 lb kegs lb.	.23	.29	.29	.23	.29	.23

Natural Derivatives

Anethol, 2 lb bot lb.	1.90	2.15	2.50	1.90	1.30	1.25
Borneol, 1 lb bot lb.	2.50	3.00	3.00	2.40	2.50	2.40
Carvol, 5 lb bot lb.	3.60	4.00	4.00	3.50	3.60	3.50
Citral, 25 lb cans lb.	2.65	4.00	4.00	2.65	2.75	2.70
Citronellal 1 lb bot lb.	2.00	4.00	4.00	2.00	2.75	2.70
Eucalyptol, USP, 50 lb cans lb.	.85	.90	1.05	.85	1.05	1.00
Eugenol, USP, 25 lb cans lb.	3.50	4.00	4.00	2.70	2.75	2.70
Geraniol, domestic, 50 lb cases lb.	2.50	2.70	2.70	2.50	2.70	2.50
Imported, 5 lb bot lb.	2.90	3.10	3.10	2.90	3.10	2.90
Iso-Eugenol, 1 lb bot lb.	3.75	3.80	3.80	3.75	3.80	3.75
Imported, 1 lb bot lb.	3.70	3.80	3.80	3.70	3.80	3.70
Linalol from Bois de Rose, 5 lb bot lb.	3.00	5.00	5.00	3.00	3.25	3.20
Rhodinol, 1 lb bot lb	6.25	20.00	20.00	6.25	7.75	7.50
Saffrol, drums lb.	.35	.37	.37	.27	.27	.27
60 lb cans lb.	.37	.39	.39	.29	.29	.29

Synthetic Aromatics

Acetophenone, CP, 1 lb bot lb.	3.50	3.65	3.65	3.50	3.65	3.50
Aldehyde, C 8 (Otcyl) 1 lb bot lb.	...	50.00	55.00	50.00	55.00	50.00
C 7, 1 lb bot lb.	4.50	5.50	5.50	4.50	5.50	4.50
C 9 (Nonyl), 1 lb bot lb.	...	40.00	140.00	140.00	140.00	140.00
C 10 (Decyl), 1 lb bot lb.	.	48.00	48.00	48.00	48.00	48.00
C 14, 1 lb bot lb.	.	32.00	32.00	32.00	32.00	22.50
C 16, 1 lb bot lb.	...	24.00	24.00	24.00	32.00	24.00
Aubepine, see Anisic Aldehyde						
AMYL ACETATE, pure, 5 gal cans gal.	5.50	6.85	6.85	5.50	6.85	4.75
Butyrate, 1 lb bot lb.	1.25	1.50	1.75	1.25	1.75	1.70
Butyrate, 5 lb bot lb.	...	1.00	1.75	1.00	1.75	1.75
Cinnamate, 5 lb bot lb.	9.50	9.75	9.75	9.50	9.75	9.50
Formate, 1 lb bot lb.	...	1.90	1.90	1.90	1.90	1.90
Formate, 5 lb bot lb.	...	1.75	1.7	1.75	1.75	1.75
Phenyl Acetate, 1 lb bot lb.	4.50	5.00	5.00	4.50	5.00	4.50
Salicylate, 100 lb cbys lb.	1.25	1.30	1.30	1.25	1.30	1.25
Imported lb.	2.25	2.50	2.50	2.25	2.50	2.25
Anisic Aldehyde, 1 lb bot lb.	4.00	4.50	4.50	3.00	3.25	3.00
Benzaldehyde, USP, 40 lb cbys lb.	...	...	...	...	...	...
50 lb cbys lb.	1.45	1.55	1.55	1.25	1.35	1.25
FFC, 40 lb cbys lb.	1.35	1.45	1.45	1.35	1.45	1.35
Benzoic Ether, see Ethyl Benzoate						
Benzophenone, 1 lb bot lb.	4.50	5.00	5.00	4.50	5.00	4.50
Benzyl Acetate, 100 lb cbys lb.	.90	1.10	1.10	.90	1.10	.90
Alcohol, 5 lb bot lb.	1.20	1.30	1.35	1.20	1.35	1.25
BENZYL BENZOATE	1.15	1.20	1.40	1.15	1.40	1.35
Medicinal, FFC lb.	...	1.40	1.40	1.40	1.40	1.40
Buytrate, CP, 1 lb bot lb.	9.25	9.50	9.50	9.25	9.50	9.25

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{ Monthly Review }

Citrus Oil Foreign Trade Current Year, Decline Continues

Imports of both lemon and orange oil for the first four months of 1929 and 1930 are shown in the following table:

	1929			1930		
	Pounds	*Value*	*Average*	*Pounds*	*Value*	*Average*
Lemon oil....	183,300	$603,856	$3.21	331,570	$357,514	$1.08
Orange oil....	96,715	464,212	4.80	93,873	210,608	2.24

It is interesting to note that imports of lemon oil have increased 80 per cent., presumably taking advantage of the declining import value which averaged $1.08 per pound in 1930 against $3.21 per pound for the 1929 quarter period. Orange oil imports while only 5 per cent. less, the value per pound has been cut in half.

The latter situation is also one of concern to domestic orange oil producers whose exports of orange oil during 1929, the first year exports were recorded, amounted to 43,251 pounds, valued at $160,391, or an average export value per pound of $3.71. However, for the first four months of 1930 exports have amounted to only 11,812 pounds, valued at $22,038 or an average of $1.86 a pound.

Italian sweet orange oil (the third week in May) was quoted on the domestic market at from $2.65 to $3.50 a pound. This low has been equaled only twice in the last 14 years. Italian lemon oil quoted at from $1.15 to $1.25 is the lowest in the domestic market since 1925.

Citrus Oils Remain Weak

The situation on citrus oils continues to be one of predominent weakness with demand from consuming channels being only fair. No change has been made in the price of Italian lemon oil the prevailing quotations being $1.25 to $1.50 per lb., with the Californian oil selling at $1.10 and $1.30 per lb. Business on lemon oil was irregular with a tendency noted to shade quotations below the prevailing market schedule. This tendency was caused by the fact that competition has become more pronounced than ever in this commodity.

The demand for orange oil is reported as only fair for this season. Orange bitter has been further reduced to $2.90 and $3.15 per lb. Spanish oil is offered at $3.10 and $3.25 per lb., a reduction of approximately 50c per lb. during the past month. The other grades of oil remain at the same levels reported last month. Stocks are ample to meet requirements.

Cables received show the foreign market on Bergamont to be unchanged. Spot quotations remain as previously reported. New business is booked in but small lots and the interest shown by consumers is but routine.

Cedarwood Stays High

Quotations on cedarwood were maintained at the prevailing high levels reached during the past several months. The primary market continues to offer oil at very high levels, in fact beyond the point that dealers under the present demand for the oil are willing to go. The spot market is 43c to 45c per lb.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Benzyl Cinnamate, 1 lb bot. lb.	7.00	7.25	9.50	7.00	9.50	9.25
Formate, 1 lb bot.....lb.	3.25	3.35	3.35	3.15	3.25	3.15
Propionate, 1 lb bot.....lb.	3.60	3.75	3.75	3.60	3.75	3.60
Succinate, 1 lb bot.....lb.	5.25	5.50	5.50	5.25	5.50	5.25
Valerate, 5 lb bot.....lb.	3.00	3.25	3.25	3.00	3.25	3.00
Bornyl Acetate, 1 lb bot....lb.	2.25	3.35	3.35	2.90	3.00	2.90
Bromstyrol, 25 lb cases.....lb.	4.50	4.65	4.65	4.10	4.25	4.10
Butyl Anthranilate dom, 1 lb bot.....lb.						
Butyric Ether, see Ethyl Butyrate.....						
Cinnamic Acid, 5 lb cans....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Alcohol liquid, 1 lb bot...lb.	3.00	3.10	3.35	3.00	3.35	3.25
Crystallizable.....lb.	7.00	8.00	8.00	7.00	8.00	7.00
Aldehyde.....lb.	2.25	2.50	2.50	2.25	2.50	2.25
Imported, 1 lb bot.....lb.	7.75	9.00	9.00	7.75	9.00	7.75
Citronelyl Acetate, 1 lb bot..lb.	6.00	6.25	8.00	6.00	8.00	7.75
Coumarin, 25 lb cans.....lb.	3.50	4.00	4.00	3.50	4.00	3.50
DECYL ALCOHOL.....lb.	25.00	28.00	28.00	25.00	28.00	25.00
Diethyl Phthlate see Chemicals						
Diphenyloxide, 25 lb tins....lb.	1.00	1.15	1.15	1.00	1.15	1.00
Diphenyl Methane.....lb.	1.75	2.00	2.00	1.50	1.75	1.50
Duodecyl Alcohol.....lb.	20.00	22.00	22.00	20.00	22.00	20.00
Ethyl Acetate, pure, 5 lb bot..lb.	.45	.50	.50	.45	.50	.45
Benzoate, 5 lb bot.....lb.	1.50	1.75	1.75	1.50	1.75	1.50
Ethyl Butyrate, 5 lb bot....lb.	1.80	2.00	2.00	1.80	2.00	1.80
Caproate, 1 lb bot.....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Cinnamate, 1 lb bot.....lb.	4.00	4.50	4.50	4.00	4.50	4.00
Formate, 5 lb bot.....lb.	1.00	1.25	1.25	1.00	1.25	1.00
Methyl Paracresol, 1 lb bot .....lb.	3.25	3.50	3.50	3.25	3.50	3.25
Phenyl Acetate, 5 lb bot..lb.	3.75	4.00	4.00	3.75	4.00	3.75
Valerate, 5 lb bot.....lb.	...	3.75	3.75	3.75	3.75	3.75
Salicylate, 5 lb bot.....lb.	1.95	2.00	2.00	1.95	2.00	1.95
Formic Ether see Ethyl Formate						
Geranyl Acetate, 1 lb bot....lb.	3.00	3.05	3.25	3.00	3.25	3.20
Butyrate, 1 lb bot.....lb.	13.00	13.50	13.50	13.00	13.50	13.00
Formate, 1 lb bot.....lb.	12.00	12.50	12.50	12.00	12.50	12.00
Glyco Ester.....lb.	1.00	1.10	1.10	.90	1.00	.90
Heliotropin, 100-10 lbs.....lb.	1.65	1.75	1.75	1.65	1.75	1.65
Imported.....lb.	1.95	2.05	2.05	1.95	2.05	1.95
Hydroxycitronellal, 1 lb.....lb.	5.50	7.50	7.50	5.50	7.50	5.50
Indol, CP, 1 oz bot.....oz.	2.90	3.00	3.00	2.90	3.00	2.90
IONONE, 1 lb bot 100%...lb.	5.00	6.00	6.00	5.00	6.00	5.00
Alpha.....lb.	4.80	5.00	5.00	4.80	5.20	4.80
Beta.....lb.	5.70	5.75	5.75	5.70	5.75	5.70
Methyl.....lb.	5.75	6.00	6.00	5.75	6.00	5.75
Iso Borneol.....lb.	2.25	2.35	2.35	2.15	2.25	2.15
Iso Bornyl Acetate.....lb.	3.00	3.20	3.20	2.80	3.00	2.80
Iso-Butyl Benzoate, 5 lb bot..lb.	2.75	3.00	3.00	2.75	3.00	2.75
Iso-Safrol, 1 lb bot imp.....lb.	1.75	1.85	1.85	1.65	1.75	1.65
Domestic, 5 lb bot.....lb.	3.50	3.75	3.75	3.50	3.75	3.50
Lynalyl Acetate, 1 lb bot....lb.	3.50	4.50	4.50	3.25	4.25	3.25
Benzoate, 1 lb bot.....lb.	13.00	14.00	14.00	13.00	14.00	13.00
Formate, 5 lb bot.....lb.	10.50	12.00	12.00	10.50	12.00	10.50
METHYL ACETOPHENONE .....lb.	3.35	3.50	3.50	3.35	3.50	3.35
Anthranilate, 1 lb bot.....lb.	2.45	2.50	2.50	2.40	2.45	2.40
Imported.....lb.	2.70	2.75	2.75	2.70	2.75	2.70
Anthranilic Acid.....lb.	11.75	12.00	12.00	11.75	12.00	11.75
Benzoate, 5 lb bot imp....lb.	1.75	1.85	1.85	1.75	1.85	1.75
Domestic, 5 lb bot.....lb.	1.75	2.00	2.00	1.75	2.00	1.75
Cinnamate, 1 lb bot.....lb.	3.75	4.25	4.25	3.75	4.25	3.75
Heptenone, 1 lb bot.....lb	6.50	7.00	9.00	6.50	9.00	8.50
Paracresol, 1 lb bot.....lb	4.50	8.00	8.00	4.50	8.00	4.50
Phenylacetate, 5 lb bot...lb	3.75	4.00	4.00	3.75	4.00	3.75
Salicylate, USP, 500 lb dr .lb.	...	.40	.40	.40	.40	.40
50 lb cases.....lb.	...	.42	.42	.42	.42	.42
Mirbane rect, 1,000 lb drs...lb.	.12	.13	.13	.12	.13	.12
Musk Ambrette 1 lb cans...lb	7.25	7.50	7.50	6.50	6.75	6.50
Ketone 1 lb cans.....lb	8.00	8.15	8.15	8.00	8.15	8.00
Xylene 5 lb cans.....lb.	2.25	2.35	2.35	2.25	2.35	2.25
Nerolin 1 lb cans.....lb.	1.35	1.40	1.40	1.35	1.40	1.35
Octyl Alcohol 1 lb bot.....lb.	30.00	32.00	32.00	30.00	32.00	30.00
Oenanthic Ether lb bot.....lb.	1.90	2.00	2.00	1.90	2.00	1.90
Paracresol Methyl Ether....lb.	6.50	6.75	6.75	6.50	6.75	6.50
Paracresyl Acetate.....lb.	5.50	5.75	5.75	5.50	5.75	5.50
Para Cymene Refd 110 gal dr .....gal.	2.25	2.50	2.50	2.25	2.50	2.25
PHENYLACETALDEHYDE 50% 1 lb bot.....lb.	4.75	5.00	5.00	4.75	5.00	4.75
Imported 50%.....lb.	4.75	5.00	5.00	4.75	5.00	4.75
100%.....lb.	8.00	8.25	8.25	8.00	8.25	8.00
Phenylacetic Acid 1 lb bot..lb.	3.50	3.75	3.75	3.00	3.25	3.00
Phenyl Diacetate 1 oz bot...oz.	3.00	3.25	3.25	3.00	3.25	3.00
1 lb bot.....lb.	8.00	10.00	10.00	8.00	10.00	8.00
Imported.....lb.	7.00	7.75	7.75	7.00	7.75	7.00
Phenylethyl Alcohol 1 lb bot.lb.	4.50	4.75	4.75	4.50	4.75	4.50
Phenyl Ethyl Acetate.....lb.	8.25	8.75	8.75	8.25	8.75	8.25
Butyrate 1 lb bot.....lb.	15.00	16.00	16.00	15.00	16.00	15.00
Formate, 1 lb bot.....lb.	19.00	21.00	21.00	19.00	21.00	19.00
Propionate, 1 lb bot.....lb.	16.00	18.00	18.00	16.00	18.00	16.00
Valerate, 1 lb bot.....lb.	19.00	20.00	20.00	19.00	20.00	19.00
Phenylpropylalcohol, 1 lb bot .....lb.	12.00	12.50	12.50	12.00	12.50	12.00
Skatol, 1 oz bot.....lb.	4.50	7.00	7.00	4.50	7.00	4.50
Terpinyl Acetate, 25 lb cans..lb.	.90	.95	.95	.75	.80	.75
Imported, 25 lb cans.....	.85	.90	.90	.85	.90	.85
TERPINEOL, CP, 1000 lb drs .....lb.	.27	.29	.29	.27	.35	.27
50 lb cans.....lb.	.31	.33	.33	.31	.39	.31
Absolute, 25 lb cans.....lb.	.48	.50	.50	.48	.50	.48
Imported, 25 lb cans...lb.	.58	.60	.60	.58	.60	.58
Vanillin (Clove Oil), USP.lb.	6.25	6.80	6.80	6.25	7.00	6.00
(Guaiacol) USP.....lb.	6.00	6.55	6.55	6.00	7.15	7.15

CHEMICALS
ESSENTIAL OILS
AROMATIC SPECIALTIES

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Sole American Representatives
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METZNER & OTTO
Leipzig, Germany
ESTABLISHED 1861

{ Monthly Review }

Essential Oil Exports from Nice to United States Steady

French essential oil dealers in Nice indicate that demand is poor, but that so far as the United States is concerned there is very little variation in the declared exports for the first quarter of 1930 compared with the same period in 1929. The figures follow:

	1929 (1st Quarter) Pounds	1929 (1st Quarter) Value	1930 (1st Quarter) Pounds	1930 (1st Quarter) Value
Essential and distilled oils	73,496	$269,570	98,865	$229,512
Floral essences	872	29,900	1,458	66,626
Sundries	6,742	14,910	6,215	13,854
Floral water	9,342 gals.	3,223	3,616 gals.	1,176
	81,110 lbs. 9,342 gals.	$317,603	106,538 lbs. 3,816 gals.	$311,168

The increase in weight and the decrease in value can not be entirely attributed to lower prices as variations in the qualities shipped are a large factor in the figures. Prices for lavender, petitgrain, jasmine, neroli, orange, rose, mimosa, geranium bourbon, ylang-ylang current, April 1, on the basis of which shipments are made to the United States are available upon application to the Chemical Division. (Consul H. C. Robertson, Nice.)

Australian Oils

The essential oil industry of West Australia is of comparatively recent growth, but may confidently look forward to a bright future.

The most important, as well as the oldest of the West Australian essential oils, is oil of sandalwood. Sandalwood oil was produced in West Australia as far back as 1878, though oil of the grade now supplied, which is much superior to the older product, has been on the market for only about ten years.

Other West Australian oils are oil of baronia. The present yearly production of concrete oil of boronia is said to be about 2,000 ounces, valued at about $40 per ounce. Still other West Australian oils are araucana oil, mossoia bark oil, huon pine oil and peppermint oil.

Recently, lavender (lacendula vera), has been planted in West Australia in the same areas as peppermint, it being hoped to produce an oil from this equal to the English lavender oil.

It is also intended to produce eucalyptus oil in West Australia, 3,000 trees of eucalyptus citriodora having been planted. These are expected to be ready for distillation in threysim.

No official statistics relating to the exportation of West Australian oils are available, but those for the whole of Australia show that, whereas the oils exported for the year ended June 30, 1915, were valued at only £381, for the year ended June 30, 1929, the value of the exported oils was £63,307.

Caraway oil is lower at $1.65 per lb., which represents a decline of 5c per lb. during the past month. Competition and a falling off in demand must again be invoked in explaining this fluctuation. Stocks are sufficiently large to take care of requirements. The raw material market is also easier, as indications point to a large crop in Holland.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Valerianic Ether see Ethyl Valerate						
Yara Yara, 1 lb cans lb.	1.50	1.60	1.60	1.50	1.60	1.60

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.75	2.85	2.85	2.75	.285	2.70
Bitter, ffPA, 5 lb bot lb.	2.85	2.95	2.95	2.85	3.10	2.85
Sweet, 56 lb cans lb.	.55	.58	.68	.55	.85	.65
Amber crude, 25 lb tins lb.	.25	.27	.35	.25	.35	.33
Rectified, 25 lb tins lb.	.52	.55	.55	.52	.55	.52
Angelica Root, 1 lb bot lb.	31.00	33.00	33.00	21.00	24.00	21.00
Anise Tech, 400 lb drums lb.	.90	.95	1.15	.90	1.15	.55
USP, 60 lb cans lb.	.95	.96	1.16	.95	1.16	.58
Apricot Kernel, 50 lb cans lb.	.34	.35	.39	.34	.46	.37
Bay, 25 lb tins N. F. V., 50.55% Phenol lb.	2.35	2.55	2.60	2.25	3.00	2.30
Terpeneless lb.	5.80	6.00	6.00	5.80	6.00	5.80
BERGAMOT, 25 lb coppers lb.	2.60	2.80	3.70	2.60	5.35	3.25
Terpeneless lb.	14.00	18.00	18.00	14.00	18.00	14.00
Artificial, 25 lb cans lb.	2.00	2.75	3.25	2.00	3.25	2.50
Birch, Sweet, Northern, 25 lb tins lb.	2.25	2.75	4.00	2.25	4.00	3.75
Southern, 25 lb tins lb.	...	1.95	1.95	1.95	1.95	1.95
Birch Tar, rect., 5 lb bot lb.	.50	.55	.55	.50	.55	.50
Crude, 50 lb tins lb.	.12	.13	.13	.12	.13	.12
Bois de Rose, tins						
Brazillian lb.	1.05	1.20	1.60	1.05	1.70	1.55
Cayenne, tins lb.	1.65	1.75	2.00	1.65	2.35	1.90
Cade, 25 lb cans lb.	.25	.27	.27	.25	.27	.25
Cajuput, native, 50 lb tins lb.	.75	.80	.80	.75	.88	.70
Calamus, 5 lb bot lb.	3.40	3.50	3.50	3.40	3.50	3.40
Camphor Sassa, 1000 lb drs lb.	.22	.23	.30	.22	.36	.14½
White, 400 lb drs lb.	.24	.26	.40	.24	.40	.10½
Cans, 50 lbs lb.	.26	.27	.35	.26	.35	.14
CANANGA, Native 25 lb tins lb.	2.45	2.60	3.15	2.45	3.25	2.90
Rectified, 25 lb tins lb.	3.20	3.30	3.40	3.20	3.50	3.30
Caraway, USP lb.	1.65	1.80	1.95	1.65	2.00	1.65
Cardamon, NF, 1 lb bot lb.	24.00	37.00	39.00	24.00	29.00	25.00
Cascarilla, USP, 1 lb bot lb.	65.00	80.00	90.00	65.00	90.00	50.00
Cassia,						
Redist, USP, 50 lb cans lb.	1.25	1.30	1.45	1.25	2.10	1.40
Cedar Leaf, 50 lb tins lb.	1.05	1.10	1.10	1.05	1.10	.95
Cedar Wood, light, 1000 lb drs lb.	.43	.45	.45	.25	.28	.25
Celery, 1 lb bot lb.	...	7.75	7.75	7.75	7.75	7.75
Chaulmoogra, USP 80 lb cases lb.	...	1.50	1.50	1.50	1.50	1.20
Cinnamon Ceylon, 1 lb bot lb.	9.50	13.00	13.00	9.50	13.00	9.50
Leaf, 5 lb bot lb.	1.85	1.95	1.95	1.85	1.95	1.60
CITRONELLA Ceylon, 1000 lb drs lb.	.58	.60	.63	.58	.61	.44
50 lb tins lb.	.60	.62	.64	.60	.62	.46
Java, 400 lb drs lb.	.64	.69	.82	.62	.91	.49
50 lb tins lb.	.66	.71	.84	.64	.93	.52
Cloves, USP, 50 lb cans lb.	1.75	1.80	2.20	1.80	2.90	2.20
6 lb bot lb.	2.20	2.25	1.65	.84	2.70	1.75
Copaiba lb.	...	.65	.65	.65	.80	.65
Coriander, USP, 10 lb bots lb.	5.75	6.35	5.90	5.75	11.25	5.90
Croton USP, 25 lb tins lb.	4.00	4.25	4.25	3.00	3.15	.90
Cubebs, USP, 5 lb bot lb.	2.90	3.00	3.00	2.90	3.00	2.90
Cumin, 1 lb bot lb.	7.00	7.50	7.50	7.00	3.75	3.75
Dill, 25 lb cans lb.	3.75	5.75	5.75	3.75	3.85	3.75
Erigeron, 20 lb tins lb.	1.80	2.00	2.00	1.80	1.90	1.80
EUCALYPTUS Austl, USP, 56 lb cans, cases lb.	.51	.52	.52	.51	.60	.51
500 lb drs lb.	.50	.51	.51	.50	.59	.50
Fennel, USP, 25 lb tins lb.	.95	1.10	1.10	.80	.85	.80
Geranium African, 25 lb tins lb.	4.15	4.25	5.40	4.15	5.40	3.85
Bourbon, 28 lb tins lb.	4.25	4.50	4.90	4.00	5.85	4.25
Turkish, 28 lb tins lb.	3.10	3.25	3.35	3.10	3.35	3.00
Ginger, 1 lb bot lb.	5.75	6.00	6.85	5.75	6.85	6.00
Gingergrass, 28 lb tins lb.	2.50	2.70	2.70	2.50	2.70	2.50
Hemlock, 25 lb tins lb.	1.05	1.10	1.10	1.05	1.10	1.05
Juniper Berries, USP, 25 lb tins lb.	1.95	2.00	2.15	1.90	2.15	2.05
Wood, 50 lb tins lb.	.50	.60	.60	.50	.60	.50
LAVENDER, USP, 28 lb tins lb	2.40	2.55	3.40	2.40	3.40	3.25
Spike Spanish, 50 lb cans lb.	1.00	1.10	1.10	.90	.95	.90
Lemon Ital, 25 lb cans lb.	1.25	1.50	3.40	1.25	5.75	2.75
California 35 lb chys lb.	1.10	1.30	2.25	1.10	4.65	2.05
Lemongrass, native, 50 lb cans lb.	.72	.74	.74	.72	.83	.81
Limes, expressed, 25 lb tins lb.	17.75	20.75	22.50	17.75	28.00	19.50
Distilled, 25 lb tins lb.	7.25	7.50	8.75	7.25	9.75	7.75
Linaloe Mex., 70 lb cases lb.	...	2.10	2.25	2.10	2.25	2.20
Mace, distilled, 50 lb tins lb	1.70	1.75	1.80	1.70	1.80	1.75
Mandarin, 25 lb cases lb.	6.50	7.00	9.25	6.50	11.50	8.75
Mirbane, ref Aromatic Chemicals						
MUSTARD, USP, 1 lb bots lb.	9.50	10.00	10.00	9.50	10.00	9.50
Artif, USP, 5 lb bot lb.	1.60	1.70	1.70	1.60	1.70	1.60
Neroli Bigarade, ¼ & ½ & 1 lb bot lb.	125.00	250.00	325.00	125.00	325.00	75.00
Petale, 1 lb bot lb.	160.00	170.00	170.00	150.00	170.00	160.00
Artificial, 1 lb bot lb.	5.00	15.00	15.00	5.00	15.00	5.00
Nutmeg, USP, 50 lb tins lb	1.60	1.65	1.80	1.60	1.80	1.75
ORANGE BITTER, 25 lb tins lb	2.90	3.15	3.75	2.90	6.75	3.50
Sweet W Ind, 25 lb tins lb	2.70	2.95	3.35	2.70	6.50	3.10
Italian, 25 lb cop lb.	2.75	3.05	4.00	2.75	7.35	3.35

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Peppermint Weakens

Peppermint oil, which during the past several months has shown a tendency to fluctuate rather irradically, has now again become weaker with prices declining. Peppermint oil natural is offered at $2.70 to $3.00 per lb. with the redistilled at $3.00 to $2.35 per lb. It would seem that dealers, in an effort to get business, have been willing to make sacrifices with the result that this commodity has particularly felt the stress of competition. This is the explanation of the reduction in price as the primary market has been fairly well maintained.

Rosewood Trade

Rosewood oil declared for export to the United States at Martinique is not in reality of Martinique origin, consul James E. Parks, Martinique. Rosewood oil is imported into Martinique from French Guiana, and this port is merely the shipping point for the product of that colony. As will be noted, the total exports of lime oil in 1929 decreased nearly 45 per cent., while the value increased nearly 80 per cent. The following table shows the annual declared export returns from Martinique, French West Indies, to the United States during the past two years:

	1928		1929	
	Quantity	Value	Quantity	Value
Lime oil	1,729	$4,088	976	$7,150
Rosewood oil	7,975	12,411	5,342	7,157

Geranium Oil Stronger

Geranium oil is stronger with the Bourbon selling at $4.25 per lb. There is every indication of manipulation in this oil with exporters taking advantage of the fact that stocks are less plentiful in this market. Prolonged strength in this commodity, however, is not anticipated with dealers here merely increasing their price to protect themselves. No shortage of oil exists in the primary market so that as additional stocks arrive here the technical condition now existing will automatically correct itself.

Ginger Strong

The undertone of oil ginger is very strong, although no change in price is reported. The raw material market for this commodity is firmer with stocks reported as moderate, especially for African ginger. There is every liklihood that distillers will have to pay more for raw material as the summer advances and this increased cost will necessarily be reflected in the price of the oil. Spot stocks are offered at $5.75 to $6.00 as to quantity.

Lime Demand Less

Lime oil, due to a considerable falling off in demand, has been reduced to $7.25 and $7.50 per lb. The undertone at these figures is still easy as buyers have repeatedly refused to pay the prices dealers were asking. It seems that this attitude of the consuming trade has had the effect of finally easing the market for this commodity.

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Orange American, Cold pressed 25 lb tins ..... lb.	3.00	3.15	3.75	3.00	7.40	3.50
Distilled, 25 lb tins ..... lb.	1.55	1.60	2.15	1.55	5.25	2.05
Spanish, 25 lb tins ..... lb.	3.10	3.25	4.00	3.10	7.15	3.85
Oil Orris, concrete ..... oz.	6.00	6.25	6.25	6.00	6.25	2.50
Origanum, 50 lb cans tech.. lb.	.28	.30	.30	.28	.30	.28
Parsley, 1 lb bot ..... lb.	9.00	9.25	9.25	9.00	9.25	8.00
Patchouli, 5 lb bot ..... lb.	6.40	6.65	8.50	6.40	8.75	6.75
Pennyroyal, dom, 25 lb tins.. lb.	1.55	2.10	2.10	1.55	2.10	1.55
Imported, 25 lb tins ..... lb.	...	1.15	1.20	1.15	1.20	1.20
Pepper Black lb.	10.25	...	10.25	10.25	...	...
Peppermint, nat. 60 lb cases lb.	2.70	3.00	3.45	2.70	4.05	2.85
Redis, USP, 60 lb cs. ..... lb.	3.00	3.25	3.65	3.00	4.30	3.10
Petit Grain S A., 25 lb tins.. lb.	1.65	1.75	2.05	1.65	2.05	1.90
French, 1 lb bot ..... lb.	6.25	6.50	6.50	6.25	6.50	6.35
Italian, 25 lb tins ..... lb.	2.20	2.30	2.30	2.20	2.30	2.20
Pimento, 25 lb tins ..... lb.	2.35	2.60	2.75	2.50	2.75	2.25
Pineedle Siberian, cans ..... lb.	.70	.75	.75	.70	.75	.60
Pinus, Sylvestris, 25 lb tins.. lb.	1.90	2.00	2.00	1.90	2.00	1.90
Pumilio, USP, 25 lb tins... lb.	2.45	2.55	2.95	2.45	2.95	2.85
Rose Fr, 8, 16, & 32 oz pkgs.. lb.	14.00	17.00	17.00	14.00	17.00	12.00
Bulg, 8, 10 & 32 oz pkgs... lb.	14.00	14.50	14.50	14.00	14.50	11.50
Rosemary, USP, 27½ lb tins.. lb.	...	.51	.56	.51	.56	.47½
1000 lb drums ..... lb.	...	.50	.50	.50	.50	.42½
Tech, 25½ lb tins ..... lb.	...	.40	.40	.40	.40	.40
Rue, 1 lb bot ..... lb.	3.00	3.10	3.25	3.00	3.25	3.15
SANDALWOOD, E Ind ,USP, 100 lb case ..... lb.	8.25	8.50	9.85	8.25	9.85	7.45
W Indian (Amayris), 25 lb tins ..... lb.	2.85	2.95	2.95	2.85	2.95	2.25
Australian, Tins	5.65	5.65	5.65			
Sassafras, USP, 50 lb cans... lb.	1.30	1.32	1.32	1.30	1.32	.78
Artificial, 1000 lb drs, 60 lb cans ..... lb.	.30	.32	.36	.30	.40	.26
Safrol, cans ..... lb.	.36	.38	.43	.36	.48	.28
Savin, 50 lb tins ..... lb.	2.30	2.45	2.65	2.30	2.75	1.65
SPEARMINT, USP, 50 lb tins ..... lb	4.60	4.65	4.70	4.60	4.70	4.05
Spruce, 50 lb tins ..... lb	1.05	1.10	1.10	1.05	1.10	1.05
Tansy, American, 25 lb tins.. lb.	3.75	4.00	4.00	3.75	4.00	3.75
Tar, 50 gal bbls ..... lb.	.25	.30	.30	.25	.30	.25
USP, 50 gal bbls ..... lb.	.75	1.50	1.50	.75	1.50	.75
Thyme, red, NF, 25 lb tins.. lb.	.78	.80	.80	.78	.90	.78
White, NF, 25 lb tins ..... lb.	.83	.85	.85	.83	.90	.83
Tech, 110 lb drums ..... lb.	.60	.70	.70	.60	.70	.60
Turpentine, USP, rect cbys.. lb.	.27	.30	.30	.27	.30	.27
Vetivert Bourbon, 10 bot .... lb.	6.25	6.50	6.50	6.25	6.50	6.25
Indian, 1 lb bot ..... lb.	25.00	38.00	38.00	25.00	38.00	25.00
Java, 1 lb bot ..... lb.	15.00	16.00	16.00	15.00	16.00	15.00
Wine, heavy, 1 lb bot ..... lb.	1.65	1.75	1.75	1.65	1.75	1.65
WINTERGREEN Gaultheria, true, 25 lb tin ..... lb.	8.00	10.00	10.00	8.00	10.00	8.00
Southern, 25 lb tins .... lb.	3.75	4.00	4.00	3.75	4.00	3.75
Synthetic see Methyl salicylate						
Wormwood, dom, 25 lb tins.. lb.	11.75	12.00	17.25	11.75	35.00	13.25
Wormseed, Balt, 25 lb tins... lb.	2.90	3.15	3.50	2.90	3.65	1.80
Ylang Ylang Bourbon, 10 lb tins No. 1 ..... lb.	9.00	9.25	9.25	9.00	9.75	9.25
10 lb tins No. 2.. ... lb.	8.20	8.25	8.50	8.20	8.50	8.25
Manila, 1 lb bot ..... lb.	30.00	40.00	40.00	30.00	40.00	30.00

Oleoresins

Aspidum, USP, bot and tins.. lb.	...	1.25	1.25	1.25	1.45	1.25
Capsicum, USP, bot and tins lb	3.50	4.25	4.25	3.50	4.25	3.50
Cubeb, USP, bot and tins.... lb.	3.00	3.25	2.25	3.00	3.25	3.00
Ginger bot and tins ..... lb.	2.85	3.35	3.35	2.85	3.35	2.85
Malefern see Aspidum						
Orris, bot & tins ..... lb.	15.00	18.00	18.00	15.00	18.00	15.00
Pepper, black, USP, bot & tin ..... lb.	...	9.50	9.50	9.50	9.50	9.50
Vanilla, bot & tins ..... lb.	8.00	8.75	8.75	8.00	8.75	8.00

Perfumer's Sundries

Almond Meal, 25 lb cans.... lb.	.20	.21	.21	.20	.21	.20
Amber liquid, 400 lb drs.... lb.	2.20	2.30	2.30	2.20	2.30	2.20
Ambergris, Black, boxes..... oz.	14.00	15.00	15.00	14.00	15.00	14.00
Gray boxes ..... oz.	32.00	36.00	36.00	32.00	36.00	32.00
BALSAM COPAIBA Para, 80 lb cases ..... lb.	...	.33½	.33½	.33½	.34	.30
South American, USP, 80 lb cases ..... lb.	...	.37	.37	.37	.37	.37
Peru, 120 lb cases ..... lb.	2.00	2.00	2.00	2.00	2.05	1.75
Tolu, 90 lb cases ..... lb.	1.25	1.30	1.30	1.25	1.30	1.15
Benzoin Gum, Siam, boxes... lb.	1.20	1.30	1.30	1.20	1.30	1.20
Castoreum, 1 lb bot ..... lb.	20.00	22.00	22.00	9.50	10.00	9.50
Chalk, Precip, 1 gt 175 bbls. lb.	.04½	.05	.05	.04½	.05	.04½
Cherry Laurel Water, 24 ltr cby ..... lb.	4.10	4.60	4.60	4.10	4.60	4.10
Civet, Abyssin, horns ..... oz.	2.10	3.00	3.00	2.10	3.00	2.10
Labdanum, 5 lb bot ..... lb.	5.50	6.00	6.00	5.50	6.00	5.50
Musk Pods Cabardine, tins. .lb.	...	...	...	...	...	...
Musk Tonquin, tins, Pods....oz.	24.00	26.00	26.00	24.00	26.00	24.00
Grains Cabardine, tins.... oz.	...	...	...	...	...	...
Tonquin, tins, Grained.. oz.	28.00	34.00	34.00	28.00	34.00	28.00
Synthetic See Aromatic Chemical						
Rice Starch, 140 lb bags.... lb.	.09	.10	.10	.09	.10	.09
Rose Water, 24 ltr cbys.. cby.	5.00	5.50	5.50	5.00	5.50	5.00
Sandalwood, pwd bags..... lb.	.22½	.40	.40	.22½	.40	.22½
Saponin, 5 lb tins ..... lb.	1.15	1.30	1.30	1.15	1.30	1.15
Talc, Italian, 220 lb bags... ton.	60.00	80.00	80.00	60.00	80.00	60.00
French, 220 lb bags..... ton.	40.00	45.00	45.00	40.00	45.00	40.00

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GELATINE
Pure Food and Technical

COIGNET GELATINES
17 State Street, New York City

Drugs and Spices

{ Monthly Review }

Sandalwood More Plentiful

Sandalwood oil remains unchanged in price at $8.25 and $8.50 per lb. for East Indian U. S. P. Shipments of wood were recently held up which gave rise to the impression that a scarcity existed. Raw material is now coming in freely and there are ample supplies to cover any demand that may develop without delay. Good business is reported in this commodity but there are no indications of an advance in price as spot stocks are sufficient to meet any requirements.

Camphor Oil Imports Up

The quantity and value of camphor oil imports into the United States in 1929 were the greatest during the four year period 1926-1929, inclusive; the figures follow: 1926-2,334,709 pounds, valued at $216,965; 1927-$2,274,377 valued at $211,483; 1928-2,753,863 pounds, valued at $245,421.

Anise Oil Scarce

Spot supplies of oil anise continue comparatively light with little new stocks being received here. The market is firm at prevailing prices. There is always the possibility, however, that if shipments from China are again released in volume there will be a flood of oil that will undoubtedly lower the market considerably.

New Zealand Firm Interested in American Medicinal and Toilet Preparations

Trade Commissioner Julian B. Foster, Wellington, has been approached by the managing director of a New Zealand firm, who is desirous of being placed in touch with American manufacturers of chemists and druggists goods, who are prepared to establish sole agency connections in New Zealand. This firm is particularly interested in perfumes, drugs, toilet preparations, and chemists sundries.

Accredited American firms may obtain the name and address of the above mentioned manager upon application to the Chemical Division.

Wormseed, although unchanged in quoted schedules, was subject to considerable shading. Demand has been very small with a willingness on the part of dealers to meet any fair offer with a reasonable concession on their part.

Mandarin has been reduced to $6.50 per lb. as considerable quantities of this oil have been produced. Demand is routine with stocks on hand and in prospect ample.

Cloves are steady at 28c and 29c per lb. and rather scarce on spot. Demand here has expanded slightly and as crop news have not been encouraging a firm to stronger market is in anticipation.

Drugs and Spices

	Current Market	1930 High	1930 Low	1929 High	1929 Low
Aconite Root, USP, bags....lb.	.15	.16	.19	.15	.21	.18
Agar Agar, No. 1, bales....lb.	1.26	1.27				
Agar Agar No. 2, bales....lb.	1.18	1.20	1.45	1.40	1.45	1.40
Almonds Meal....lb.	.19	.20	.20	.19	.30	.15
Aletris Root, bags....lb.	.36	.37	.37	.36	.38	.35
Alkanet Root, bags....lb.	.12	.13	.14	.12	.15	.11
ALOES, Cape, 400 lb cases. lb.	.13	.14	.21	.13	.18	.14
Curacao, 100 lb cases....lb.	.25	.27	.27	.25	.27	.19
Socotrine, Whole, 300 lb cs lb.	.35	.40	.50	.35	.50	.35
Althea Root, bags....lb.	.20	.22	.22	.20	.22	.20
Cut cases....lb.	.29	.36	.37	.29	.40	.30
Angelica Root, bags....lb.	.18	.19	.22	.18	.28	.21
Angostura Bark, bags....lb	.20	.23	.25	.20	.26	.19
Anise Star case....lb.	.11	.11½	.09½	.19	.19	.11
Spanish, bags....lb	.12½	.13	.14½	.12½	.19	.13½
ARABIC GUM, White, No. 1, 220 lb bags....lb.	.42	.43	.43	.35	.38	.22
Seconds, 220 lb bags....lb.	.40	.41	.41	.33	.36	.16
Sorts, Amber, 220 lb bags..lb.	.17½	.18	.27	.17½	.32	.11
Powd, USP, 300 lb bbls....lb.	.23	.26	.32	.23	.35	.17½
Areca Nuts, 100 lb bbls....lb.	.14	.16	.20	.12	.14	.10
Powd, 100 lb bbls....lb.	.17	.19	.27	.17	.27	.14
Arnica Flowers, bales....lb.	.22	.24	.35	.22	1.00	.34
Root, bags....lb.	.42	.43	.46	.42	.46	.35
Arrowroot, St. Vincent, powd bbls....lb.	.08	.09	.10½	.08	.10½	.10
Asafoetida, 250 lb cases....lb.	.23	.24	.27	.23	.29	.23
Powd, 50 lb boxes....lb.	.36	.37	.50	.36	.54	.46
Balm Gilead Buds, bags....lb.	.35	.40	.40	.35	.40	.35
Balmony Herbs, bales....lb.	.23	.25	.25	.23	.25	.18
Barberry Bark, of root, bags lb.	.18	.20	.20	.18	.20	.18
Bayberry Bark, bales....lb.	.10	.11	.12	.10	.13	.10
Wax bbls....lb.	.29	.32	.32	.29	.32	.29
BELLADONNA LEAVES, bale ....lb.	.18	.20	.20	.18	.20	.17
Root, bags....lb.	.16	.17	.19	.16	.21	.18
Bees Wax, White, cases....lb.	.55	.60	.60	.55	.60	.55
Yellow refined cases....lb.	.41	.42	.42	.41	.42	.41
Berberis Aquafolium Root, bags ....lb.	.09	.10	.10	.09	.12	.09
Beth Root, bags....lb.	.16	.17	.17	.16	.18	.16
Black Indian Hemp Root, 100 lb bags....lb.	.17	.18	.19	.17	.19	.18
Blood Root, bags....lb.	.16	.16½	.18½	.16	.18½	.17½
Blueflag Root, bags....lb.	.15	.16	.21	.15	.21	.18
Boldo Leaves, bales....lb.	.15	.17	.17	.15	.17	.15
Boneset Herb, bales....lb.	.10	.11	.12	.10	.12	.10
Borage Flowers, bales....lb.	.15	.16	.16	.15	.15	.14½
Broomtop Herb Cut, bales..lb.	.08	.09	.11	.08	.11	.10
Bryonia Root, bags....lb.	.10	.11	.12	.10	.12	.11
BUCHU LEAVES Short, 250 lb. bales....lb.	.38	.40	.40	.37	.47	.36
Long bales....lb.	.75	.80	.80	.75	.80	.75
Buckbean Leaves, bales....lb.	.08	.09	.09	.08	.10	.08
Buckthorn Bark, bags....lb.	.06	.06½	.07½	.05	.05½	.05
Berries, bags....lb.	.33	.38	.45	.33	.50	.40
Burdock Root, bags....lb.	.12	.13	.18	.12	.18	.13
Seed bags....lb.	.40	...	.40	.40	.65	.40
Burgundy Pitch, 110 stand gross for net....lb.	.08	.09	.09	.08	.09	.08
Imported....lb.	.11	.12	.12	.11	.13	.11
Calabar Beans, bags....lb.	.23	.24	.26	.23	.26	.22
Calamus Root, bldd cases..lb.	.40	.45	.50	.40	.52	.45
Unbleached, bags....lb.	.06½	.08	.08	.06½	.08	.06½
Calendula Petals, imp bales..lb.	.85	.90	1.05	.85	1.70	.95
Calisaya Bark, bales....lb.	.19	.20	.20	.19	.22	.19
Powdered, bbls....lb.	.24	.25	.25	.24	.27	.24
Canary Seed, South America, bags....lb.	.06½	.07	.07½	.05½	.07½	.05
Dutch, bags....lb.	.06½	.06½	.06½	.05½	.06¼	.05¼
Candelilla Wax, bags....lb.	.27	.28	.28	.27	.28	.27
Cannella Alba Bark, bales...lb.	.30	.31	.31	.30	.31	.28
Cannabis, U.S.P....lb	.25	.32	.32	.23	.33	.22
Cantharides, Chinese, cases..lb.	.42	.47	.47	.42	.55	.42
Powdered, boxes....lb.	.63	.65	.65	.63	.80	.63
Russian, cases....lb.	.50	.51	.51	.50	.55	.50
Powdered, boxes....lb.	.60	.62	.64	.60	.75	.65
Caraway Seed, African, bags ....lb.	.05	.06	.06	.05	.06	.05
Dutch, 11 lb bags....lb.	.10	.10½	.10½	.10	.12	.09½
Cardamon bleached, cases...lb.	1.45	1.55	1.55	1.45	1.75	1.45
Decorticated, cases....lb.	1.10	1.20	1.40	1.10	1.60	1.35
Cascara Amarga, 150 lb bbls .lb.	Nom	...	...	...	...	...
So called bales....lb.	.60	.85	.85	.60	.85	.60
CASCARA SAGRADA,						
1927 bark....lb.	.17	.18	.18	.16	.18	.15
1928 bark....lb.	.16½	.18	.18	.15	.16	.14
1929 bark....lb.	.15	.16	.16	.14	.15	.13
Cascarilla Bark, quills, bales..lb.	.90	1.00	1.00	.90	1.00	.90
Siftings, bbls....lb.	.65	...	.65	.65	.65	.65
Cassia Batavia No. 1 bbls....lb.	.12½	.12½	.14	.12½	.15	.13½
Shortstick, bales....lb.	.10	.10½	.11	.10	.12¼	.10½
Batavia No. 3, bales....lb.	.09½	.09¾	.09¾	.09	.11	.09¾
China Select Rolls, cases..lb.	.05¾	.05¾	.07¼	.05¾	.09	.08¾
Broken, bales....lb.	.05¾	.05¾	.10	.05¾	.10	.09½
Saigon, thin....lb.	.30	.31	.31	.30	.39	.28
Buds, cases....lb.	.17½	.18	.20	.17½	.28½	.16½
Fistula, baskets....lb.	.09	.10	.12	.09	.13	.10
Catnip, Herb, bales....lb.	.19	.20	.20	.19	.23	.18
Celery Seed, bales....lb.	.16¾	.17¼	.17¾	.16¾	.19	.16¾
Ceresin Wax, White, bags...lb.	.15	.20	.20	.15	.20	.15
Yellow 200 lb. bags....lb.	.11	.14	.14	.11	.14	.11
Imp. 100 lb. bags....lb.	.25	.38	.38	.25	.38	.25

Photo by Ewing Galloway

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GIFT of the Chinese, used by them before the dim tracing of first recorded history (about 2700 BC), Rhubarb has long been accepted as a cathartic and laxative in every country of the world.

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{ Monthly Review }

Botanical Drug Plants of the U. S. S. R.

The botanical drug plants of the U. S. S. R. are exported preeminently to Germany, France, Great Britain, and the United States. Germany, however, ranks first importing 65 per cent. of the total exported abroad, France—19 per cent., Great Britain—10 per cent., United States—3 per cent., and other countries—3 per cent.

Prior to the war, Russia exported 26,527 tons of medicinal and botanical raw materials valued at 3,748,000 rubles. Of this natural licorice root—19,333 tons valued at 1,300-000 rubles and other varieties—7,204 tons valued at 2,448-000 rubles. During the war and the period that followed, the cultivation, collection and export of medicinal drug plants ceased or practically ceased and only beginning with the 1922-23 fiscal year did it begin to again assume its former importance. Statistics for the 1928-29 fiscal year show exports of natural licorice root amounting to 10,021 tons, valued at 1,174,000 rubles, and other varieties of drugs 6,010 tons, valued at 4,552,000 rubles, the total value being 5,726,000 rubles.

The most important varieties of Russian botanical drugs are licorice root, ergot of rye, linden flowers, black alder bark and blackberries, valerian root, calamus root, henbane leaves, stramonium leaves, elder flowers and berries, soap root, dandelion root, lycopodium, camomile flowers, Persian camomile, and the following cultivated varieties: Aniseed and corriander seed, peppermint, fennel, caraway seed, camomile flowers and black caraway seed (Nigelle).

Vanilla Beans Up

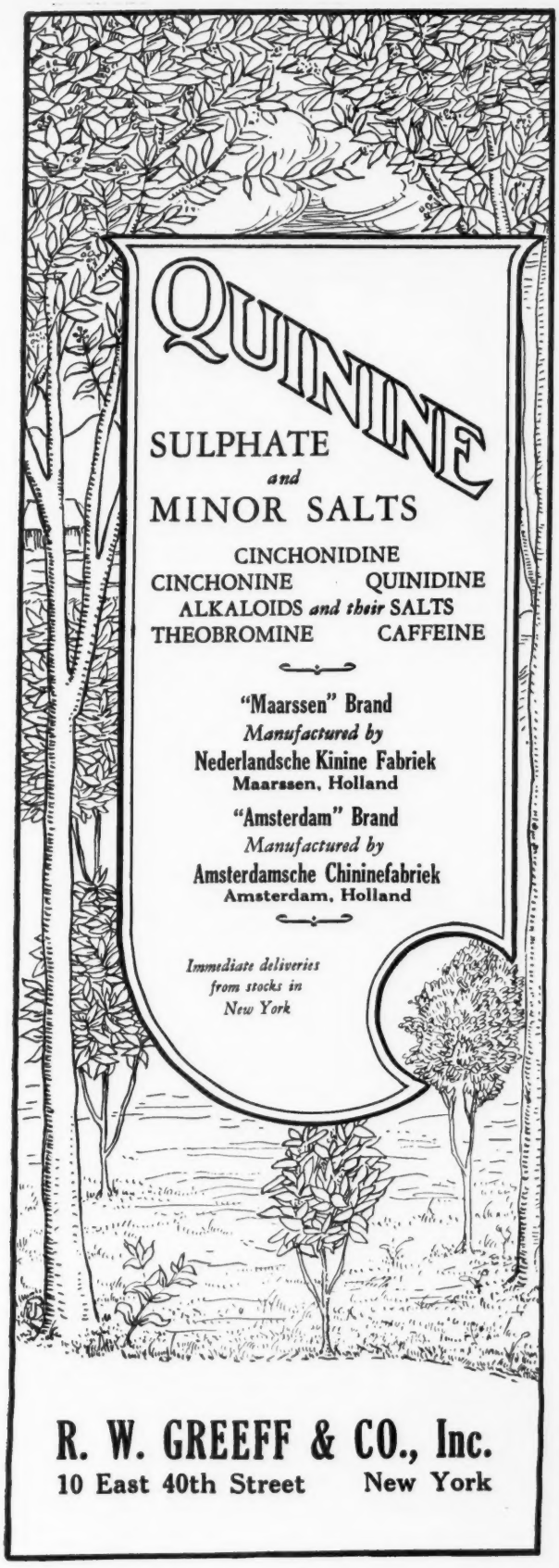
Vanilla beans are higher, Mexican whole beans selling at $4.00 to $5.00 as to quality. Cuts are offered at $3.10 to $3.25 per lb., Bourbon $1.50 to $1.90, and the South American at from $3.00 to $3.25. These prices represent considerable increases over prices prevailing a month ago, especially on the Mexican which are reported as being in small supply here. Consumer demand has also been very good with buyers of large quantities often finding stocks undersupplied.

The new crop of Mexican beans is beginning to arrive here but the price at which this crop was purchased does not make it likely that an easier tone will develop. Buyers must look forward to paying high prices for a considerable time to come. The Mexican crop is reported at from 125,000 to 135,000 lbs. of whole beans, and about 60,000 lbs. of cuts, a total of approximately 190,000 to 200,000 lbs. Length of crop is reported very short.

Pimento is offered at 16¼x and 16½c per lb. with the market very dull. There is very little likelihood of buying being in anything but small units at prevailing price levels with trading being reported as unimportant.

Paprika, although unchanged in price, is reported as easier with a desire to sell noticeable among dealers. Reports have been received of intense storms in Southern Spain which damaged crops so that a stronger tone on futures is possible. The market is 21½c and 22c per lb.

		Current Market	1930 High	1930 Low	1929 High	1929 Low
CHAMOMILE FLOWERS						
Roman, bales	lb.	.70	.75	.80	.70	.80	.40
Hungarian, cases	lb.	.17	.18	.22	.17	.26	.20
Charcoal Willow, powd, bbls.	lb.	.06	.06½	.06½	.06	.06½	.06
Wood, powd, bbls	lb.	.04	.05	.05	.04	.05	.04
Chestnut Bark	lb.	.07	.08	.08	.07	.08	.07
Leaves bales	lb.	.05	.05½	.05½	.05	.05½	.05
Chicle Gum, lb bbls	lb.	.58	.75	.75	.58	.75	.58
Chiretta, bales	lb.	.19	.22	.28	.19	.30	.26
Cinnamon, Ceylon, No. 1, bales	lb.	.34	.35	.35	.34	.62	.34
No. 2 bales	lb.	.22½	.23	.34	.22½	.51	.32
No. 3 bales	lb.	.55½	.56	.56	.55½	.56	.55½
Clover Tops, Red, bags	lb.	.10	.11	.11	.10	.14	.10
Cloves Zanzibar, 135 lb bbl	lb.	.28	.29	.29	.22	.38	.23½
Cochineal, Black	lb.	.69	...	.69	.69	.69	.69
Silver	lb.	.85	...	.85	.85	.85	.85
Cohosh Root, Black, bags	lb.	.08	.09	.09	.08	.09	.07½
Blue, bags	lb.	.10	.11	.11	.10	.12	.10
Colchicum Root, bags	lb.	.09	.10	.11	.09	.11	.07
Seed, bags	lb.	.95	1.00	1.00	.95	1.00	.65
COLUMBO ROOT, bags	lb.	.08½	.09½	.12	.08½	.20	.11
Colocynth Pulp, bales	lb.	.21	.22	.27	.21	.45	.29
Coltsfoot Leaves, bags	lb.	.08	.09	.09	.08	.09	.08
Comfrey Root, bags	lb.	.10	.11	.11	.11	.14	.11
Condurango Bark, bags	lb.	.13	.14	.16	.13	.17	.15
Coriander Seed, Morocco, bags	lb.	.03	.03½	.03½	.03	.06	.03
Bleached, bags	lb.	.06½	.07	.08	.06½	.11½	.07½
Corn Silk, bales	lb.	.06	.07	.07	.05½	.06½	.05½
Cotton Root Bark, bales	lb.	.10	.11	.14	.10	.15	.12
Cowhage, 1 oz tins	lb.	1.00	...	1.00	1.00	1.00	1.00
Cramp Bark so called bales	lb.	.06½	.07	.07	.06½	.08	.06
True, bags	lb.	.33	.38	.40	.38	.48	.35
Cranesbill Root, bags	lb.	.10	...	.10	.10	.10	.10
CUBEB BERRIES, XX bags	lb.	.40	.42	.53	.40	.53	.48
Powdered, boxes	lb	.45	.46	.55	.45	.55	.50
Culvers Root, bags	lb.	.18	.19	.19	.18	.20	.18
Cumin Seed, Malta, bags	lb.	.13½	.13½	.13½	.13½	.13½	.12
Morocco, bags	lb.	.15½	.15½	.16	.14½	.16	.12
Cuttlefish, Bone Trieste, Straps	lb.	.23	.25	.25	.23	.25	.14
French, boxes	lb.	.22	.23	.23	.22	.23	.12½
Powdered, bbls	lb.	.09	.10	.10	.09	.10	.09
Broken, bales	lb.	.07	...	.07	.07	.07	.05
Damiana Leaves, bales	lb.	.17	.18	.18	.17	.18	.16
Dandelion Root, Imp. bags	lb.	.23	.25	.27	.22	.29	.19
Deer Tongue Leaves, bales	lb.	.11	.13	.13	.11	.13	.11
Digitalis Leaves, bales	lb.	.18	.20	.28	.18	.70	.26
Dogwood Bark, Jamaica bags	lb.	.09	.10	.10	.09	.11	.09
American bales	lb.	.06½	...	.06½	.06½	.06½	.06½
Doggrass Root, USP, cut bags	lb.	.12	.13	.13	.12	.13	.10
Dragons Blood Mass, cases	lb.	.65	.70	.70	.65	.70	.65
Reeds, boxes	lb.	...	1.60	4.00	1.60	4.00	.90
Echinacea Root, bags	lb.	.23	.25	.25	.23	.28	.23
Elcampane Root, bags	lb.	.08	.09	.09	.08	.09	.08
Elder Flowers, bags	lb.	.45	.50	.55	.45	.55	.22
Elemi Gum, 85 lb cases	lb.	.26	.28	.28	.26	.28	.26
Elm Bark, bundles	lb.	.32	.33	.40	.32	.40	.25
Grinding bags	lb.	.13½	.14	.14	.13½	.14	.13½
Powdered, bbls	lb.	.18	.19	.22	.18	.22	.19
Ephedra Vulgaris, bales	lb.	.09	.10	.10	.09	.16	.09
ERGOT, 150-200 lb bags	lb.	.55	.60	.65	.60	.95	.60
Eucalyptus Leaves, bales	lb.	.07	.08	.09	.07	.11	.07
Euphorbia Pilulifera, Herb, bags	lb	.06½	.07½	.07½	.06½	.11	.06½
Euphorbium Gum, cases	lb.	.14	.20	.20	.14	.20	.14
Fennel Seed, French, bags	lb.	.13	.13½	.14½	.13	.18½	.14
German bags	lb.	.15	.17	.19	.15	.27	.17
Foenugreek Seed, 200 lb bags	lb.	.04½	.05½	.06½	.04½	.06½	.05
Fish Berries, 100-125 lb bag	lb.	.06	.07½	.07½	.06	.07½	.06
Flax Seed, Whole 182 lb bbls.		15.50	16.25	17.00	15.50	17.00	14.00
Ground, 180 lb bbls	lb.	.08½	.09	.09½	.08½	.09½	.08
Flea Seeds Black bags	lb.	.50	.55	.55	.32	.35	.20
Fringe Tree Bark or Root bags	lb.	.24	.26	.26	.19	.24	.19
Fumigating Pastiles, boxes	lb.	.30	.35	.35	.30	.35	.30
Galangal Root, bags	lb.	.08½	.09½	.15	.08½	.15	.14
Galbanum Gum, cans	lb.	.95	1.05	1.05	.95	1.25	.95
Gamboge Gum, 100 lb cases	lb.	1.05	1.10	1.15	1.05	1.25	1.10
Powdered, cases	lb.	...	1.18	1.25	1.18	1.40	1.20
Gelsemium Root, bags	lb.	.09	.10	.10	.09	.12	.09
GENTIAN ROOT, bags	lb.	.09	.10	.10	.09	.11	.09
Ground bbls, boxes	lb.	.13	.14	.14	.13	.14	.13
Powdered, bbls, boxes	lb.	.13	.14	.14	.13	.14	.13
Ginger, African, bags	lb.	.11½	.11½	.17½	.11	.17½	.13
Jamaica Grinding bags	lb.	.14	.14½	.21½	.15½	.20	.18
Cochin ABC & Lemon, bags	lb.	.15½	.16	.18½	.15½	.18½	.17
Ginseng Root, cultivated cs.	lb.	8.00	10.00	10.00	8.00	10.00	8.00
Wild Southern, cases	lb.	...	16.00	16.00	16.00	16.00	16.00
Golden Seal Root, bags	lb.	2.15	2.35	2.80	2.15	3.80	2.70
Powdered, boxes	lb.	2.80	2.90	3.15	2.80	4.35	3.25
Herb, barrels	lb.	1.25	1.30	1.30	1.25	1.30	1.25
Grains of Paradise, bags	lb.	.20	.30	.40	.20	.85	.30
Grindelia Robusta, Herb, bale	lb.	.09	.10	.11	.09	.12	.09
Guaiac Gum, 150 lb cases	lb.	.30	.31	.35	.30	.38	.33
Strained 75 lb cases	lb.	.70	.75	.75	.70	.75	.70
Guarana, tin cases	lb.	2.75	3.00	3.00	2.75	3.00	2.50
Hellebore Root, Black, bbls.	lb.	.05½	.06	.06	.05½	.06	.05½
White, 250 lb bbls	lb.	.07½	.08½	.08½	.07½	.08½	.07½
Powdered	lb.	.11	.12	.12	.11	.12	.11
Helonias Root, bags	lb.	.63	.65	.65	.63	.72	.62
Hemp Seed, bags	lb.	.03½	.03½	.06	.03½	.06	.05
Henbane Leaves, USP, bales	lb.	.15	.16	.17	.15	.20	.15



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Magnesite (Grecian)	Senega Root
Magnesium Chloride	Epsom Salts
Calomel, Howards'	Cod Liver Oil
Benzoic Acid, Howards'	Glycerine, C. P.
Thymol, Howards'	Glycerine, B. P.
Bicarbonate Potash	Manganese Sulphate
Barium Nitrate	

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NEW YORK CITY

Drugs and Spices

{ *Monthly Review* }

Domestic Crude Drug Exports Up 11 Per Cent

Evidence of the recognition accorded American tested crude botanical drugs abroad is manifest in the value of 1929 exports, which equaled $3,690,000 against $3,273,000 during 1928, or an increase of 11 per cent.

Germany is one of the best markets, averaging $185,000 during the past two years. Other good markets are the United Kingdom and Canada.

These countries now recognize that in the United States the drug milling industry has reached the point where it should be considered a profession, rather than a trade and that the more dependable firms engaged in this industry, with the object of maintaining the unquestionable high standard of their products, test them botanically, microscopically, chemically, and physiologically.

Nux Vomica Production and Exports, India

The Government of India several years ago discontinued publishing any production figures on nux vomica. More than half of the supply is obtained from South India and shipped from the port of Madras but a very substantial quantity is also obtained from Western Bengal, Bihar, and Orissa and shipped from Calcutta.

Export figures for the two latest fiscal years ending March 1929 follow. The figures for the first ten months of the current fiscal year ending March 1930, are not available by countries but totaled 45,766 cwts. of 112 lbs.

	1927–28 Cwt.	1928–29 Cwt.		1927–28 Cwt.	1928–29 Cwt.
United Kingdom	17,122	5,216	France	1,546	467
Germany	790	3,030	United States	17,444	26,919
Netherlands	12,993	5,340	Other countries	307	840
Belgium	500	1,400			
Share of Bengal in the trade	20,678	11,501	Total	50,702	43,212
Share of Bombay	1,487	318	Share of Madras	28,537	31,393
			Share of Burma		

Trade Commissioner Charles B. Spofford, Jr., Calcutta.)

Pyrethrum Quality Imports Up, Price Down

Imports of pyrethrum or insecticide flowers into the United States for the first quarters of 1930 and 1929 were 3,106,000 pounds valued at $568,000 and 2,906,000 pounds valued at $830,000.

It is interesting to note that the import value per pound for the first quarter of 1930 is only $0.1828 against $0.2856 for the same period during 1929.

Imports of pyrethrum flowers into the United States during the five year period 1925-1929 are shown in the following table:

	1925	1926	1927	1928	1929
Pounds	6,435,000	9,853,000	8,903,000	13,689,000	9,013,000
Value	$1,237,000	$1,219,000	$1,220,000	$3,692,000	$2,061,000

Colombian Exports of Ipecac

Official Colombian sources state that exports of ipecac to all countries during the last three years were as follows: 1927—37 metric tons ($51,135); 1928—14 metric tons ($15,896); 1929—19 metric tons ($32,476).

	Current Market	1930 High	1930 Low	1929 High	1929 Low
HENNA LEAVES, bales....lb.	.12	.13	.12	.13	.12½
Powdered.....lb.	.14	.15	.16	.14	.17	.15
Hops, bales.....lb.	...	.20	.23	.20	.32	.23
Horehound, Herb, bales.....lb.	.08	.09	.09	.08	.09	.08
Hydrangea Root, bales.....lb.	...	.08	.09	.08	.09	.08
Insect Flowers.....lb.	.27	.28	.28	.27	.37	.18
Powdered, Pure, 200 lb bb .....lb.	.30	.31	.35	.30	.46	.25
IPECAC ROOT, Carteagna, bags.....lb.	2.50	2.50	4.25	2.50	4.25	2.70
Powdered, 220 lb bbls...lb.	2.90	3.00	4.45	2.90	4.45	3.20
Rio Whole, bags.....lb.	2.90	3.00	4.00	2.90	4.00	2.85
Powdered, 110 lb bbls...lb.	3.40	3.45	3.50	3.25	3.50	3.40
Isinglass, American, 130 lb cases .....lb.	.95	1.00	1.00	.95	1.00	.95
Russian (Beluga), boxes...lb.	4.50	...	4.50	4.50	4.50	4.50
Jaborandi Leaves, bales.....lb.	.11	.11½	.22½	.11	.22½	.11½
Jalap Root, Whole, 150 lb bag.....lb.	.25	.27	.43	.22	.45	.24
USP, Powd, 250 lb bbls....lb.	.30	.33	.48	.27	.50	.29
Japan Wax 24 lb cases.....lb.	.18½	.19	.19	.18½	.19	.18½
JUNIPER BERRIES, 125 lb bags.....lb.	.05	.05½	.07	.05	.09	.05
Kamala, boxes.....lb.	.90	.95	1.45	.90	1.40	.82
Karaya Gum, Powdered, bbls .....lb.	.12	.20	.20	.12	.20	.12
Kava Kava Root, bags.....lb.	.14	.15	.15	.14	.15	.14
Kino Gum, Black, cases.....lb.	.50	.55	.55	.50	.55	.50
Kola Nuts, 150 lb bags.....lb.	.10	.11	.15	.10	.15	.13
Lady Slipper Root, bags....lb.	1.10	1.15	1.15	1.10	1.30	.85
Larkspur Seed, bags.....lb.	.45	.50	.57	.45	.57	.40
Laurel Berries, bags.....lb.	.08	.09	.09	.08	.09	.08
Leaves, Greek, bags.....lb.	.04	.05	.06	.04	.06	.05
Italian, bales.....lb.	.05	.06	.05	.03½	.04	.03½
Lavender Flowers, Ordinary.lb.	.28	.30	.35	.28	.35	.32
Selected.....lb.	.42	.43	.46	.42	.46	.43
Lemon Peel, bags.....lb.	.09½	.10½	.10½	.09½	.13	.10
LICORICE ROOT, Whole bbls .....lb.	.12	.18	.18	.12	.18	.12
Spanish Natural bales....lb.	.05½	.07	.07	.05½	.07	.05½
Powdered, bbls.....lb.	.09	.10	.10	.09	.10	.09
Selected 2 & 5 lb bdls....lb.	.13	.15	.15	.13	.15	.12½
Cutting, 125 lb bags....ln.	.06½	.07	.07	.06½	.07	.06½
Turkish, 150 lb bales.....lb.	.05	...	.05	.05	.05	.05
Linden Flowers with leaves, bales.....lb.	.20	.21	.24	.20	.27	.23
Without leaves, bales...lb.	.24	.25	.29	.23	.32	.28
Liverwort Leaves, bales.....lb.	.18	.19	.19	.18	.20	.18
Lobelia, Herb, bales.....lb.	.10	.11	.13	.10	.16	.12
Seed, bags.....lb.	.45	.50	.50	.45	.65	.45
Lovage Root, Imp., bags....lb.	.35	.37	.37	.35	.37	.25
Lupulin N. F., tins.....lb.	1.50	1.55	1.65	1.50	1.75	1.65
Lycopodium, 88 lb. cases....lb.	.55	.57	.68	.55	.85	.66
MACE SIAUW, No. 1, cases .....lb.	.70	.72	.82	.70	.86	.80
Banda No. 1, cases.....lb.	.72	.73	.86	.72	.98	.85
Batavia No. 2, cases.....lb.	.45	.46	.50	.45	.58	.47
Malva Flowers, Blue, bales..lb.	.55	.57	.57	.55	.57	.40
Black, bales.....lb.	.40	.55	.55	.40	.60	.40
Leaves, bales.....lb.	.14	.15	.15	.12	.15	.14
Manaca Root, bales.....lb.	...	.25	.25	.24	.24	.22
Manna, Large Flake, cases...lb.	1.00	1.02	1.02	.90	.92	.75
Small Flake, cakes.....lb.	.75	.83	.83	.57	.65	.52
Sorts, cases.....lb.	.45	.50	.50	.45	.50	.45
Mandrake Root, bags.....lb.	.12	.13	.13	.12	.14	.12
Marjoram, Herb.....lb.						
French, No. 1 bales.....lb.	.17½	.18	.19	.17½	.19	.16
German, bales.....lb.	.25	.26	.26	.24	.25	.22
Mastic Gum, 120 lb cans....lb.	.65	.70	.70	.65	.70	.65
Matico Leaves, bales.....lb.	.20	.31	.31	.20	.32	.30
Mezereon Bark, bags.....lb.	.20	.21	.25	.15	.25	.20
Millet Seed, Yellow, bags...lb.	.03½	.03½	.04½	.03½	.04½	.03½
Montan Wax, Crude, bags..lb.	.06½	.07	.07	.06½	.07	.06½
Bleached, bags.....lb.	.25	.28	.28	.25	.28	.25
Moss, Iceland, bales.....lb.	.10	.12	.12	.10	.11	.10
Irish, Bleached, bales ....lb.	.14	.17	.17	.14	.18	.13
Mullein Flowers, tins.....lb.	.95	.97	1.40	.95	2.00	1.35
Leaves, bales.....lb.	.07½	.08	.08	.07½	.08	.07½
Musk Root, Russian, bags...lb.	.09	.10	.10	.09	.12	.09
Myrrh Gum, 200 lb, cases...lb.	.25	.27	.35	.25	.65	.32
Nutgalls, Chinese, bags.....lb.	.22	...	.22	.22	.22	.22
Aleppy, bags.....lb.	.21	...	.21	.21	.21	.21
Powdered, bags.....lb.	.23	...	.23	.23	.23	.23
Nutmegs, 110's cases.....lb.	.21½	.22	.27	.21½	.31½	.26
75's & 80's cases.....lb.	.26	.27	.37	.26	.42	.36
Grinding, bags.....lb	.24	.25	.25	.24	.25	.24
NUX-VOMICA Buttons, bag .....lb.	.05	.06	.06	.05	.06	.05
Powdered, 200 lb bbls..lb.	.08½	.09	.09	.08½	.09	.08
Oak Bark, bags.....lb.	.05	.05½	.05½	.05	.05½	.05
Olibanum Gum, 280 lb cases Siftings.....lb.	.12½	.14	.14	12½	.15	.12½
Tears, No. 1 Extra.....lb.	.29	.30	.30	.29	.29	.27
No. 2.....lb.	.18	.20	.20	.18	.23	.18
No. 3.....lb.	.14	.16	.16	.14	.18	.14
Opium Gum, USP, cases....lb.	12.00	13.00	13.00	12.00	13.00	12.00
Granular, cans.....lb.	13.00	14.00	14.00	13.00	14.00	13.00
Powdered, USP, cans.....lb.	13.00	14.00	14.00	13.00	14.00	13.00
Orange Flowers, cases.....lb.	.30	.35	.40	.25	.30	.25
Peel, Bitter, bags.....lb.	.10	.11	.12	.10	.12½	.10
Sweet bags.....lb.	.12	.13	.15	.12	.16	.11
ORRIS ROOT, Flor. bid. bags .....lb.	.27	.28	.30	.27	.32	.17
Powdered, 200 lb bbls..lb.	.30	.32	.34	.30	.35	.21
Verona, bags.....lb.	.19	.20	.24	.19	.25	.16
Powdered, 200 lb bbls..lb.	.23	.24	.27	.23	.32	.20
Fingers, boxes.....lb.	1.00	1.05	1.20	1.00	1.20	.90
Ozokerite Wax, Brown, Hard lb.	...	...	...	...	...	...
Bags.....lb.	.24	.25	.25	.24	.25	.24
Green, Hard, bags.....lb.	.30	.31	.31	.30	.31	.30
Yellow, Refined, bags.....lb.	.37	...	.37	.37	.37	.37

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Turkish Gum Tragacanth Market During March 1930

The Istanbul gum tragacanth market is unchanged. As long as the Soviet agents have not withdrawn the quantities which they contracted for with the Turkish market, that is, 15 tons of gums, local holders are striving to maintain their quotations. During March, the Soviet agents purchased 5 tons of Biondo grade, namely, 50 sacks at 170 piasters per oke and are negotiating for the remainder, 5 tons White and 5 tons Yellow.

Stocks available on the local market toward the 23rd of March were 910 sacks and also an important amount of inferior grades, about 70 tons. In addition, there are from 80 to 90 sacks at Smyrna and from 100 to 120 sacks in the interior. At Mersina stocks are exhausted at present. Sales during March were far superior to those of last month, having aggregated 240 sacks. (Commercial Attache Julian E. Gillespie, Istanbul.)

Licorice Root Exports from Turkey to the United States Increase

Licorice root, which is the raw material entering into the production of a wide assortment of manufactured products of the tobacco, pharmaceutical and confectionery trade, as well as an ingredient in fire extinguishers, is far from being a negligible source of wealth to the Ismir region of Turkey. The collection and distribution of this root, which grows wild in land unfit for cultivation, is largely a monopoly.

Exports of this root are principally destined to the United States, although a considerable tonnage is sent to France. Total exports in 1929 amounted to 15,164,380 kilos, valued at £T. 1,032,020. (Turkish pound is $4.43 United States currency).

Nux Vomica Production in Ceylon

The exports of nux vomica from Ceylon for the last five years, it is believed, represent practically the whole production. There were no exports recorded during 1926, 1928, and 1929, but during 1925, and 1927 the figures were, respectively: 187 hundredweight (112 pounds), valued at 1,900 rupees; 668 hundredweight, valued at 6,855 rupees. (Consul Stillman W. Eells, Colombo.)

Gum Arabic Higher

Gum arabic is higher for the bleached, the number 1 grade selling at 42c and 43c per lb. This is in contrast to the amber sorts which have declined on spot to 17½c during the past month. The tendency has been for these two grades to pull apart due to the fact that the bleaching, which is usually done in January, February, and March, had been put off as the bleachers were unwilling to buy gum at the prevailing high levels. They had eventually to pay a high figure for gum but only bought limited supplies. Should the rainy season now due catch them with gum still to be bleached, prices may still go higher.

There is, however, a reactionary influence in that demand has been small for all grades of gum and this will to a great extent provent prices reaching any abnormal heights.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Papain, Crude, 150 lb cases..lb.	2.75	2.80	3.15	2.75	3.50	2.95
Pure, Powdered, 10 lb bot..lb.	2.90	2.95	3.30	2.90	3.55	3.10
Paprika, bags.....lb.	.21½	.22	.24	.21½	.33	.23½
Pareira Brava Root, bags....lb.	.13	.14	.14	.13	.14	.11
Passion Flower, bales.....lb	.07½	.08½	.10	.07½	.25	.09
Patchouli Leaves, bales.....lb.	.20	.21	.23	.20	.23	.22
Pennyroyal, Herb, 100 lb bags .....lb.	.07	...	.07	.07	.07	.07
Leaves, 100 lb bags.....lb.	.14	.16	.16	.14	.16	.14
PEPPERMINT LEAVES, Imp bales.....lb.	.65	.75	.75	.65	.75	.43
Domestic, bales.....lb.	.40	.41	.46	.40	.46	.24
Pichi Leaves, bags.....lb	.12	.13	.14	.12	.16	.13
Pimento Select, bags.....lb.	.16½	.16½	.19½	.15¾	.30½	.19½
Pink Root, True, bags.....lb.	.50	.52	.57	.50	.60	.55
Pleurisy Root, bags.....lb.	.21	.22	.23	.21	.28	.21
Poke Berries, bags.....lb.	...	.18	.18	.18	.30	.18
Root, 200 lb bales.....lb.	.08	.08½	.08½	.08	.08½	.07½
Pomegrant Bark of Root, bags .....lb.	.30	.35	.35	.30	.35	.20
Bark of Fruit, bags.....lb.	.25	.30	.30	.25	.30	.25
Bark of Tree, bags.....lb.	.18	.22	.22	.18	.22	.15
POPPY FLOWERS, Red, bags .....lb.	.55	.60	.60	.55	.60	.50
Heads, bags.....lb.	.50	...	.50	.50	.50	.50
Prickly Ash Bark.....lb.	.14	.17	.17	.14	.17	.14
Southern bags.....lb.	.13½	.14	.14	.13½	.14	.13½
Northern, bags.....lb.	.15	.16	.16	.15	.18	.15
Berries, bags.....lb.	.23	.24	.24	.20	.21	.19
Prince's Pine, bales.....lb.	.25	.30	.50	.23	.50	.15
Pulsatilla, Herb, bags.....lb.	.11	.12	.12	.11	.14	.12
Pumpkin Seed, bags.....lb.	.14	.15	.15	.14	.15	.14
Quassia Chips, bags.....lb.	.06½	...	.06½	.06½	.06½	.06½
Quebracho, bulk, 125 lb. bbl.lb.	.30	.31	.31	.30	.31	.29
Root, bags.....lb.	...	.07	.07	.07	.07	.07
Quince Seed, bags.....lb.	1.05	1.15	1.15	.80	.80	.70
Persian, bags.....lb	1.30	1.35	1.35	.95	1.25	.80
Rape Seed, South American, bags.....lb.	.05½	.06	.06	.05½	.06	.05½
Dutch, bags.....lb.	.06	.06½	.07½	.06	.07½	.06
Japanese, small bags.....lb.	.04½	.05½	.06½	.04½	.07	.05½
Raspberries, Dried, bbls...lb.	.45	.55	.60	.45	.60	.45
Red Saunders, bags.....lb.	.08	...	.08	.08	.08	.08
Rhatany Root, bags.....lb.	.11	.12	.13	.11	.13	.11
Rhubarb Root, HD, cases...lb.	.19	.20	.28	.19	.41	.27
Powdered, bbls.....lb.	.24	.26	.85	.24	.46	.33
Rosemary Leaves, bales.....lb.	.05	.05½	.05½	.05	.06	.04½
Flowers, cases, bales.....lb.	.25	.30	.30	.25	.30	.25
Rose Petals, pale.....lb.	.29	.30½	.41½	.29	.42½	.40
Red.....lb.	1.60	1.65	1.70	1.60	1.80	1.65
Rue, Herb, bales.....lb.	.18	.20	.20	.18	.20	.18
Sabadilla Seed, bags.....lb.	.30	.31	.31	.28	.34	.28
Powdered, bbls.....lb.	.30	.31	.33	.27	.39	.30
SAFFRON FLOWERS, American, bales.....lb.	.28	.33	.35	.28	.40	.30
Valencia, 1 lb cans.....lb.	9.60	9.50	11.50	9.00	12.00	10.50
Sage Dalmatian, bales.....lb.	.05½	.06	.06	.05½	.06	.05½
Greek, bales.....lb.	.05½	.06	.06	.05½	.06	.05½
Sandarac Gum, 300 lb bbls..lb.	.45	.50	.75	.45	.75	.40
Sarsaparilla Root, Honduras, bales.....lb.	.50	.51	.54	.50	.55	.53
Mexican, bales.....lb.	.17	.19	.26	.17	.40	.24
Sassafras Bark, Ordinary, bales .....lb.	.14	.16	.16	.14	.16	.14
Select, bales.....lb.	.21	.23	.24	.21	.28	.22
Savory Leaves, bale.....lb.	.07½	.08	.09	.07½	.09	.08½
Saw Palmetto Berries, bags.lb.	.09	.10	.10½	.09	.12	.09½
Scammony Resin, boxes.....lb.	1.30	1.35	1.35	1.30	1.35	1.30
Root, bags.....lb.	.08½	...	.08½	.08½	.08½	.08½
Senega Root, bags.....lb.	.80	.85	1.05	.80	1.35	1.00
SENNA ALEX., 150 lb cases lb.	.25	.30	.30	.25	.30	.25
Half leaf 150 lb cases....lb.	.12½	.14½	.14½	.12½	.15	.12½
Sifting, 400 lb bales...lb.	.11	.11½	.11½	.11	.11½	.10½
Tinnevelly, Bold, 350 lb bales .....lb.	.16	.18	.18	.16	.18	.16
Medium Leaf.....lb.	.11	.12	.12	.11	.12	.10
Small Leaf.....lb.	.07	.09	.09	.07	.10	.07
Pods, 350 lb.....lb.	.08	.08½	.08½	.08	.11½	.08
Powdered, 200 lb.....lb.	...	.10	.11	.10	.11	.11
Serpentaria Root, bags.....lb.	.62	.65	.68	.62	.72	.65
Shellac, T. N., bags.....lb.	.57	.58	.58	.57	.58	.57
Simaruba Bark, bales.....lb.	.25	.27	.28	.20	.40	.20
Skullcap Leaves, Eastern, bales .....lb.	...	.75	.75	.75	.75	.40
Western, bales.....lb.	.34	.35	.35	.30	.35	.18
Skunk Cabbage, Striped, bales .....lb.	.13	.15	.16	.13	.16	.14
Snake Root, Canada Natural, bags.....lb.	.27	.28	.28	.27	.28	.24
Canada, Stripped, bags...lb.	.55	...	.55	.55	.55	.55
Soap Bark.....lb.	.14	.15	.15	.14	.15	.14
Cut, 125-175 lb bags...lb.	.10	.10½	.11½	.10	.16	.11
Crushed, 200 lb bbls....lb.	.16	...	.16	.16	.16	.16
Powdered, bbls.....lb.	.15	...	.17	.15	.17	.17
Spearmint Leaves, American, bales.....lb.	.35	.36	.37	.32	.37	.25
Spermaceti, blocks, cakes, cases .....lb.	.32	.35	.35	.32	.35	.32
Spikenard Root, bags.....lb.	.18	.18½	.20	.18	.20	.18½
Squaw Vine, bales.....lb.	.17	.18	.21	.17	.21	.18
Squills, White.....lb.	.07½	.08½	.10	.07½	.13	.09
Powdered, bulk.....lb.	.23	.25	.25	.23	.25	.20
Stavesacre Seed, bags.....lb.	.16	.17	.17	.16	.18	.16
Stillingia Root, bags.....lb.	.08	.09	.10	.08	.12	.09
Stone Root, bags.....lb.	.08	.09	.09	.08	.09	.08
St. Ignatius Beans, bags....lb.	.14½	.15	.15	.14½	.15	.14½
St. John's Bread, bags.....lb.	...	.09	.09	.09	.09	.09
STRAMONIUM LEAVES, bales.....lb.	.16	.18	.18	.16	.20	.16
Seed, bags.....lb.	.07½	...	.07½	.07	.07½	.07½

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Psyllium Stocks Depleted

An exceptionally heavy demand has so depleted stocks of fleaseed in the spot market that practically none is available at this writing. Price is put at anywhere at 62c per lb. but the black variety, which is the best grade is almost impossible to obtain at any price. This condition will exist until such time as new crop arrives here. The prospect for the new crop, however, is encouraging to consumers as it is reported very large. The very attractive prices obtained for this commodity has stimulated production in France so that with the arrival of new crop some time in August, supplies should be plentiful.

Gum Myrrh Trade of Arabia

Imports into Arabia of gum myrrh from independent Somali ports, Italian East Africa, Somaliland, etc., during the official 1928-1929 year and the 1929 calendar year amounted to 26,912 hundredweight valued at 689,339 rupees and 26,919 hundredweight valued at 637,088 rupees, respectively. Exports of gum myrrh during the same periods amounted to 16,270 hundredweight valued at 605,-399 rupees and 18,978 hundredweight valued at 689,389 rupees. (The Cwt = 112 pounds, and the value of the rupee in the United States currency is $0.3620.) Egypt followed by India (Bombay) Djibouti and certain Red Sea ports were the destinations of the bulk of the exports, the United States, United Kingdom, and France being the destinations of only approximately 1,000 hundredweights.

It is interesting to note that while the value of the exports approximately equalled the import value, the quantity exported was approximately one-third less. (Vice Consul C. K. Houston, Aden, Arabia.)

Exports to the United States of Ipecac Root and balsam of tolu for the first quarter of 1930 from, Colombia declared at Cartagena, which accounts for the bulk of the exports, show decreases which will be noted in the following table:

	1929		1930	
	Pounds	Value	Pounds	Value
Balsam of tolu	4,747	$4,649	1,799	$1,418
Ipecac root	13,432	35,540	11,374	31,109

(Vice Consul W. P. Robertson, Cartagena.)

Spanish saffron flowers are lower as competition has been particularly keen. Dealers have shown a tendency to shade quotations as an inducement to buyers. Offerings are being made at from $9.00 to $9.50 per lb. American flowers remain unchanged with the market characterized as inactive.

Belladonna root is normally active but price has receded to 16c and 17c per lb. It might here be said that competition and the desire to get business has also been at work. One source has also indicated that above quotations could still be shaded slightly.

No change in the price of belladonna leaves has been noted with a steady market reported. Stocks in the spot market are ample to meet consumer demand with a condition existing that is favorable to buyers.

	Current Market		1930 High	1930 Low	1929 High	1929 Low
Strophanthus Seed, Kombe, bags	lb.	2.25	2.50	2.25	2.50	2.00
Styrax Liquid, Artificial	lb.	.26	.35	.26	.35	.26
Genuine, USP	lb.	.40	.45	.40	.45	.40
Sunflower Seed, bags Calif	lb.	.04¾	.05	.04¾	.07	.06
South American, bags	lb.	.07	.07½	.07	.07½	.07
Tamarinds, bbls	lb.	.10	.11	.09½	.10	.05
Kegs	keg	3.85	...	3.85	3.75	3.85
Tansy, Herb, bales	lb.	.15	.16	.15	.16	.11
Thus Gum, 280 lb bbls	lb.	.08	.17	.20	.08	.20 .11½
THYME, Spanish, bales	lb.	.10½	.10½	.16	.10½	.16 .08½
French, bales	lb.	.10	.12	.11½	.10	.12½ .08
Tonga Root, bundles	lb.	.25	.26	.42	.25	.42 .42
Bark, bundles	lb.	.25	.26	.42	.25	.42 .42
Tonka Beans, Angostura Cases		1.75	1.85	1.85	1.75	2.00 1.75
Para cases	lb.	.90	...	.90	.90	.90 .90
Surinam cases	lb.	1.00	1.10	1.10	1.00	1.50 1.00
Tragacanth Gum, No 1, 100 lb. cases	lb.	1.45	1.50	1.50	1.45	1.60 1.50
No. 2	lb.	1.30	1.40	1.40	1.30	1.50 1.30
No. 3	lb.	1.10	1.20	1.20	1.10	1.30 1.10
Powdered, 50 lb boxes	lb.	.90	1.00	1.00	.90	1.10 .90
Turkish cases	lb.	.50	.90	.90	.50	.90 .45
Turmeric Root Madras, bags	lb.	.08½	.08¾	.08¾	.09	.08½
Aleppy bags	lb.	.07½	.07½	.09	.07½	.10 .08½
Powdered	lb.	.13	.15	.15	.13	.15 .13
China bags	lb.	.11	.12	.12	.11	.12 .11
Turpentine Venice True, 80 lb cases	lb.	.32	.40	.40	.32	.40 .32
Artificial, 80 lb cases	lb.	.17	.18	.18	.17	.18 .17
Uva Ursi Leaves, bales	lb.	.06	.06½	.06½	.06	.06½ .06
Valerian Root, Belgium, bags	lb.	.15	.17	.21	.15	.30 .19
VANILLA BEANS, Mexican, whole, cases	lb.	4.00	5.00	5.00	3.50	4.50 3.25
Cuts, cases	lb.	3.10	3.25	3.25	2.75	3.30 2.50
Bourbon, cases	lb.	1.50	1.90	2.50	1.50	2.65 1.75
South American, cases	lb.	3.00	3.25	3.25	2.85	3.00 2.50
Tahiti, Green, label cases	lb.	...	Nom.	2.00	1.75	2.50 1.75
Vetivert Root, 100 lb bags	lb.	.25	...	.25	.25	.25 .25
Violet Flowers, bags	lb.	.75	.80	.80	.75	1.00 .68
Wahoo Bark of Root, bags	lb.	.52	.53	.53	.52	.56 .51
Bark of Tree, bags	lb.	.25	.26	.26	.25	.31 .25
White Pine Bark, Roseed, bags	lb.	.07½	.09½	.09½	.07½	.15 .07
White Poplar Bark, bags	lb.	.06	.07½	.07½	.06	.07½ .05½
Wild Cherry Bark, Thin, Green	lb.	.14	.15	.15	.14	.20 .14
Rossed bales	lb.	.11	.12	.12	.11	.12 .11
Thick Rossed, bales	lb.	.08	...	.09	.08	.09 .09
Thin Natural, bales	lb.	.08	.09	.09	.08	.09 .07½
Thick Natural, bales	lb.	.06	.06½	.06½	.06	.06½ .05
Wild Indigo Root, bags	lb.	.14	.15	.15	.14	.15 .13
Willow Bark, bags	lb.	.05	.05½	.05½	.05	.05½ .05
White, bags	lb.	.15	...	.15	.15	.15 .15
Witch Hazel Bark, bags	lb.	.07	.08	.08	.07	.08 .05½
Leaves, bales	lb.	.07	.08	.08	.07	.08 .06½
Wormseed, American, bags	lb.	...	.08½	.11	.08½	.13 .10
Levant, bags	lb.	3.50	3.65	3.00	3.50	4.15 3.65
Wormwood, Herb, Imp., bales	lb.	.08	.08½	.08½	.08	.10½ .08
Yellow Dock Root, bags	lb.	.10	.11	.14	.10	.14 .10
Yerba Mate, bags	lb.	.18	.20	.20	.18	.20 .18
Santa, bags	lb.	.09	.10½	.11	.09	.11½ .09½
Zedoary Root, bags	lb.	.07	.08	.08	.07	.08 .06½

Miscellaneous

Castor Oil, odorless, bbls	lb.	...	.13½	.14½	.13½	... ...
Chalk drop, 175 lb. bbls	lb.	...	.03½	.03½	.03½	.03½ .03½
Precip. light, 250 lb. cask	lb.	...	.04½	.04½	.04½	.04½ .04½
Heavy 540 lb. casks	lb.	...	.02½	.02½	.02½	.03½ .02½
Bulk	ton	...	5.00	5.00	5.00	5.00 5.00
English light, bags	lb.	...	.04½	.08½	.08½	.08½ .08½
English light, casks	lb.	.05½	...	...	...	... ...
Cocoa Butter, 12 lb. box	lb.	.42	.45	.45	.42	.45 .42
Cod Liver Oil Nor. 30 gal. bbls		.28	.30	31.00	28.00	36.00 22.00
Newfoundland	bbl.	...	30.00	30.00	30.00	46.00 30.00
Collodion U. S. P. 30 lb. dr.	lb.	...	.23	.23	.23	.23 .23
Corn Syrup 42° 50 gal. bbl.	100 lb.	3.91	4.16	4.16	3.91	4.16 3.91
Gelatin, USP, Silver 100 lb. cases	lb.	.55	.60	.60	.55	.60 .55
Pure Food, 50 lb. bbl	lb.	.53	.55	.55	.53	.55 .55
Glucose, (grape sugar) dry 70° bags c-l NY	100 lb.	3.14	3.24	3.24	3.14	3.24 3.14
Haarlem Oil, bot 6 gross cases	gross	...	3.75	3.75	3.75	3.25 3.25
Imported, 5 gr. cs	gross	...	3.50	3.50	3.50	3.50 3.50
Mineral Oil White, 50 gal. bbls. 80-85 vis	gal.	.50	.55	.55	.50	.67 .50
85-90 vis	gal.	.65	.70	.70	.65	.70 .65
125-130 vis	gal.	.75	.85	.85	.75	.92 .65
290 vis	gal.	.90	1.10	1.10	.90	1.10 .90
Russian 110-115 vis	gal.	.69	.79	.80	.69	.80 .70
145-155 vis	gal.	.72	.82	.84	.72	.89 .67
320-330 vis	gal.	.80	.90	.92	.80	.97 .75
Olive Oil, Edible bbls	gal.	2.00	2.40	2.40	2.00	... ...
Petrolatum, Lily White, USP, 400 lb. bbl	lb.	.08	.09	.09	.08	.09 .08
Snow White USP, 400 lb. bbls	lb.	.09¾	.10	.10	.09¾	.10 .09¾
Soap Castile, bars 50 lb. box	lb.	...	.25			
Powd. USP 250 lb. bbls	lb.	...	.20			
Green, USP, 450 lb. bbls	lb.	.07½	.07½			
Neutral, powd. bbls	lb.	.17	.18			

COD LIVER OIL

GOLD MEDAL BRAND

Famous as the Finest Non-Freezing Medicinal Norwegian Cod Liver Oil obtainable. Highest vitamin potency. Manufactured by Oluf Holm, Ltd., Aalesund, Norway.

LANOLINE, U. S. P.
CREAM OF TARTAR, U. S. P.
TARTARIC ACID, U. S. P.
CHAULMOOGRA OIL, U. S. P.
GUM OLIBANUM, U. S. P.
COLOCYNTH PULP, U. S. P.

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BORAX and BORIC ACID

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Products is Never Questioned

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WMW — CHEMICALS

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MONO SODIUM PHOSPHATE

PURE — TECHNICAL

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A few other products — Bone Ash — Tri Calcium Phosphate — Potassium Phosphate — Phosphoric Acid.

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A TEASPOONFUL OF NORWEGIAN
COD LIVER OIL CONTAINS MORE VITAMINS A AND D
THAN ALL THE BUTTER AND MILK ANY INDIVIDUAL
CAN EAT AND DRINK IN A DAY

NORWEGIAN COD LIVER OIL

Review of Patents

(*Continued from page 601*)

Sodium Tribismuthyl Tartrate

This compound is obtained in the solid crystalline form. The process consists in pouring solutions of bismuth tartrate into the accurately calculated quantity of sodium hydroxide at low temperature sufficient to result in the precipitation of the crystalline compound when the mixed solutions are allowed to stand. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. G. P. No. 485,197, filed Feb. 24, 1924.

Chlorine-Iodine Derivatives of 2-Aminopyridin

These compounds are obtained by treating 2-aminopyridin or its derivatives of the alkylated or acylated types with iodine chloride. The reaction takes place in acidified solution. Schering-Kahlbaum A. G., Berlin, Germany. G. P. No. 484,835, filed Jan. 16, 1926.

Arecaidine and Methyl Ester

N-Methyl-4-oxypiperidin-3-carboxylic acid or its esters are treated with glacial acetic acid plus halogen acids or the latter alone. The mixture is heated and the resulting arecaidin (Delta-3:4-tetrahydropyridin-3-carboxylic acid) is converted into the methyl ester in the usual manner. E. Merck & Co. Chemische Fabrik, Darmstadt, Germany. G. P. No. 485,139, filed July 23, 1926

Robert Ellis Dies

Robert Rufus Ellis, associated with the Mutual Drug Co., Cleveland, died in a hospital in Memphis, May 23. He was fifty-one years old. Mr. Ellis had returned to Memphis from Chicago May 17 at which time he had an attack of gall bladder trouble and other complications which caused his death.

He was born in West Point, Mass., December 30, 1878, and after receiving a high school education he received employment in a retail drug store, later becoming a registered pharmacist. In 1905 Mr. Ellis entered the wholesale drug business, finally becoming a nationally known figure in this field.

In 1929 Mr. Ellis, with Frederick T. Roosa, launched a plan for the further concentration of the operations of the mutual wholesale drug companies in the United States and for the introduction of a mutual policy into the business of old-line wholesalers. A short time ago the Mutual-"Ure" Druggists organization, as the Roosa-Ellis undertaking is called, announced the affiliation of its first old-line wholesale house, the Van Schaack firm of Chicago.

Mr. Ellis was an active member of the National Wholesale Druggists' Association and also led a very active social life in Memphis.

Mr. Ellis is survived by a son, his mother, four sisters and one brother. Mrs. Ellis died three years ago.

Scientific Filter Co. are now located in new quarters, 1 Franklin sq., New York, where they will have better facilities for taking care of their growing requirements. They are manufacturers of many different types of filters, specializing in those using asbestos as the medium. These filters are designed to meet the needs of the pharmaceutical, patent medicine, flavoring extract, and similar fields. They also produce their own filtering materials for their machines.

New York Quinine and Chemical Works, Inc., Brooklyn, are now represented in Boston by Messrs. Allen & Withington, 78 Cortlandt st.

COD LIVER OIL

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Finest Medicinal Quality

The recognized standard, known for its high vitamin contents. Guaranteed the finest Norwegian non-freezing medicinal cod liver oil.

POULTRY GRADES

For animal and poultry feeding

Highest vitamin potency

Packed in barrels or drums.

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The Drug Market-Place

Wants and Offers

Business Opportunities

IMPORTERS of DRUGS and PHARMACEUTICAL PRODUCTS want offers. Take charge of Patents, Trade-marks, and Licenses to sell Pharmaceutical Specialties. Isaias G. Lopes & Co., Box 899, Bogota, Colombia, S. A.

EUROPEAN STEARINE FACTORY wants direct connection with consumers of the cosmetic, pharmaceutical, rubber, tire, candle, polish industries through well introduced agent. Box 804, DRUG MARKETS.

Help Wanted

WANTED: Chemist thoroughly familiar with the manufacture of Aromatic Chemicals and allied lines. Excellent opportunity for the right man. Give all qualifications in first letter. Address Box 803, DRUG MARKETS.

Situations Wanted

PRODUCTION MANAGER—Chemical Engineering Training. Capable of developing formulae. Thoroughly experienced in all phases of manufacturing, purchasing, and bringing out new lines. Box 802, DRUG MARKETS.

MR. MANUFACTURER: Young man 30 years old, 10 years buyer and supervisor nationally advertised products; knows toilet preparations completely; own formulae; run plant; $4,000 per annum. A1 references. Willing to locate anywhere. Box 801, DRUG MARKETS.

REGISTER HERE

A good way to find the kind of a job you want or have been training for; an equally good way for any manufacturer in the drug trade, whether medicinal, toilet preparation or raw materials, to find a salesman, chemist, plant man, etc., is to register with DRUG MARKETS. No charge is made for this service. You do not have to be an advertiser in "The Drug Market Place" although this would, of course, materially increase your chances of finding what you want.

To register, just address "Registration, DRUG MARKETS." Give full details. Where desired, your name will be kept in full confidence.

WANTED: To hear from those wanting to buy Dried Saw Palmetto Berries, or Stillingia Root. Wm. P. Gould, Tice, Florida

Rates—All classifications $1.00 an issue for 20 words or less; additional words 5c each.

Payment must accompany order, add 10 cents if replies are to come to a box number and be forwarded.

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SPECIALS

NEW Glass Lined Storage and Mixing Tanks, 10, 30, 50, and 100 gals. Direct from manufacturer. Send for circular.
40—Dopp Steam Jack. Kettles, 50 to 200 gals. Send for List.
5—Pfaudler Glass Lined Storage Tanks, 500, 300 and 200, 180 gals.
5—Stokes Single Punch Tablet Machines, "N" and Eureka.
1—Stokes Rotary "D" Tablet Machine.
16—Aluminum Steam Jack. Kettles, 100, 80, 60, and 40 gals.

Miscellaneous: Filter Presses from 18"x 18" to 36"x36"; Day Sifters and Mixers; Colton and Stokes Tube Fillers, Tube Closers and Tube Clippers; Copper Jacketed Kettles; Tanks; Extractors; Pulverizers; Pumps; Dryers; Drug Mills; Ointment Mills; Powder Fillers; Oscillators; Granulators; etc. Send us your inquiries.

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Send us a list of your surplus equipment.

FOR SALE—Filter Presses; Powder Mixers, capacity 50 to 3,000 lbs.; Tube Fillers, Closers and Clippers; Copper and Aluminum Kettles; Tanks; Portable Mixers; Ointment Mills; Powder Fillers; Glass Enamel Tanks; etc. Send for complete lists Stein-Brill Corp., 25 Church St., New York, N. Y. Phone, Barclay 4850.

DOUBLE DISTILLED BAY RUM at 60% Volume
BAY RUM "AGUA MILAGROSA DE PUERTO RICO" at 75% Volume.
OIL BAY at 60% phenol.
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Custom House Brokers and Foreign Freight Forwarders
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Miscellaneous

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Oxy-Quinoline Sulphate, of exceptional purity and fine condition, from our own production. Samples and prices sent on request. THE CARLIN CHEMICAL CO., Bristol, Pa.

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New Petroleum
Harbor

ERNST SCHLIEMANN'S OELWERKE
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Wilhelmsburg

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Genuine Russian White Medicinal Mineral Oils

have a particularly high Viscosity

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MOST MODERATE RATES!
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for two $3.50
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for RESERVATIONS!

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GLYCERINE

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NEW YORK LOUISVILLE
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Supplied in ½ lb. and 1 lb. cans Only

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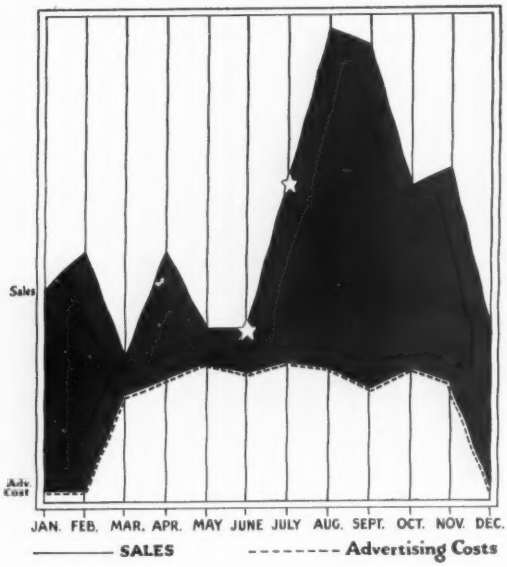

This Tells How It Was Done --and Without the Aid of Salesmen

Above chart was prepared for a well-known patent medicine advertiser after an audit of his records by a certified public accountant showed that he was getting over $3 in jobber sales for every $1 spent in advertising.

Beginning with June, 1929, our own ideas as to copy and schedule were employed together with some merchandising plans which TAKE THE PLACE OF SALESMEN.

Sales began to climb at once, until the peak was reached in August. As the sudden, unprecedented demand had caused distributors to put in extra heavy stocks, sales fell off somewhat in September.

However, through early fall, sales kept up to the point reached at the beginning of July—**and this point was higher than any the advertiser had ever reached before.**

When the stock market crash came in October, we cancelled November schedules. No advertising was scheduled for December. Jobbers do not stock in December, and we advertise only when jobbers' sales will pay for the expenditure and give a good profit besides.

In August, our client obtained $5 in sales per $1 of advertising (although this is NOT a seasonal product). However, the general average from June through the balance of the year was over $3 to $1.

Strong copy—a schedule that bought productive space at a very low cost—and merchandising plans which accomplished MORE than salesmen could have done, all contributed to this remarkable showing.

While we cannot promise $5 for $1, or even $3 for $1 in every case, EVERY ONE OF OUR CLIENTS IS GETTING BIGGER SALES PER DOLLAR OF EXPENDITURE than is usual in the patent medicine field. And most of them operate WITHOUT SALESMEN. Thus NET PROFITS are HIGH.

$1,000,000 Worth of Information

If you have national distribution and are dissatisfied with high selling costs or low advertising returns, we will be glad to discuss your problems and show you the plans whereby the biggest patent medicine advertisers have eliminated high selling costs and increased net profits 100% to 300%. Some of these methods will increase YOUR net profits. No obligation at all. Simply write, telephone or call. **STEUERMAN SERVICE**—Merchandising and Advertising—15 East 26th St., New York, N. Y.

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Drug Markets

June 1930

THE JOHN CRERAR
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The Magazine of the Manufacturing Drug Trade

TRADE DOW MARK

The Stamp of Quality on Chemical Products

Wherever chemicals are used, the Dow trade mark is recognized as the stamp of quality. Leaders in both pharmaceutical and industrial lines base their purchases of Dow Chemicals upon confidence in the Dow organization as well as upon the remarkable purity, uniformity and high quality of the products themselves. This confidence is based upon the progressiveness of the Dow organization in constantly improving our products plus dependability as a source of supply. ¶ Use Dow Chemicals. Over 150 carry the Dow trade mark

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

CONTROL

PRODUCTION SCHEDULES with MULTIPLE UNITS of

ALSOP EQUIPMENT

These modern, efficient, economical machines make possible complete control of the most difficult production schedules.

Sudden peaks . . . mushroom expansion . . . seasonal depression . . . new, changed or discarded formulae . . . variety of product . . . small batch manufacture . . . these and other production bugaboos harbor no threat for the manufacturer using ALSOP «*Hy-Speed*» Equipment.

For «*Hy-Speed*» Mixers . . . Filters . . . Bottle-Fillers . . . Pumps . . . and ALSOP Glass-Lined Tanks . . . are adaptable to every condition, whether the volume is great or small.

Individual «*Hy-Speed*» Units provide the most economical and efficient means of liquid manufacture. It is always more practical to add duplicate «*Hy-Speed*» machines to build a flexible battery that will outproduce the most elaborate, bulky, equipment.

GLASS LINED TANKS FOR MIXING AND STORAGE

Liquid products are proof against impurities . . . in the form of dissolved metallic salts . . . when they are stored or processed in the glass-lined, glass-coated steel safety of ALSOP Tanks.

ALSOP Tanks last indefinitely because the harmful effects of the strongest acids . . . except hydrofluoric . . . cannot cause destructive corrosion.

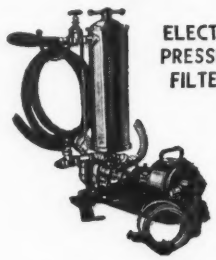
ALSOP Glass-Lined Tanks are made in every practical size and shape from 1 to 200 gallons; open, closed, or vapor-proof. They are indispensable in the up-to-date, sanitary plant.

Write for Catalogue and Full Particulars

Hy-Speed

ELECTRIC GLASS-LINED MIXING TANKS

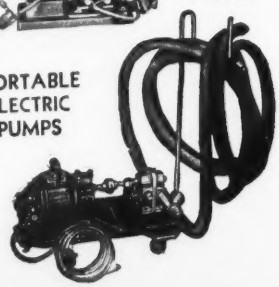
PORTABLE ELECTRIC LIQUID AND PASTE MIXER



ELECTRIC PRESSURE FILTERS

ELECTRIC MIXING FILTERING TANKS

VACUUM ELECTRIC BOTTLE FILLER



PORTABLE ELECTRIC PUMPS

ALSOP ENGINEERING CO.

MANUFACTURERS OF "*Hy-Speed*" PORTABLE ELECTRIC MIXERS, GLASS-LINED MIXING TANKS, FILTERS, PUMPS, BOTTLE-FILLERS, AND "ALSOP" GLASS LINED STORAGE TANKS.

39 WEST 60TH STREET, NEW YORK CITY

"Singin' in the Rain," from Metro-Goldwyn-Mayer's Hollywood Revue

With ALCOHOL as with RUBBER

---*the use Determines the KIND*

"Singin' in the rain, just singin' in the rain.
What a glorious feeling, I'm happy again."

WATER showered down on these stage beauties as they sang this song. And—to make the scene even more realistic, each of them wore a rubber raincoat and Sou'wester hat. Rubber is a parent word for thousands of articles, from the nipple on baby's bottle to caulking for burial caskets, from tires to textile coatings and from flooring to fire hose. Each variety varies from the others—one has flintlike hardness, another elasticity and still others have physical properties peculiar to themselves. The use determines the kind.

There are nearly as many kinds and grades of alcohol as there are distinct articles of rubber sold by the drug trade. Alcohols can be alike in chemical formula yet differ widely from each other in such physical properties as color, odor, taste, preservative and solvent qualities. Different grades of alcohol are seldom interchangeable. Specification of the right kind and grade maintains or improves the quality of your products.

Specify Rossville Grain Alcohol, made from GRAIN *only* and so labeled and guaranteed. It is clear, sparkling, has a pleasant odor and taste and maintains the permanency of its high character. It is run to any required specification for those who demand utmost accuracy and uniformity.

This Guarantee is Your Protection

Rossville
THE SPIRIT OF THE NATION

ROSSVILLE COMMERCIAL ALCOHOL CORPORATION

Lawrenceburg, Indiana. **Graybar Bldg., N. Y.**

Chicago, Philadelphia, Brooklyn, Detroit, Cleveland, Boston, Baltimore, St. Louis, Pittsburgh, Buffalo, San Francisco, Cincinnati, New Orleans, Kansas City, Mo., Minneapolis, Louisville, Rochester, N. Y., Grand Rapids, Mich.

For The Product Deserving The

FINEST APPLICATOR ROD

Here's an applicator rod and seal, all in glass, moulded in one piece. It looks attractive, sturdy and clean. A strong sales appeal can be built on its convenience for home use. Most important, tests prove conclusively that it makes a perfect seal and *reseal.*

Even peroxide of hydrogen, camphorated oil, ether—other most difficult to seal products—have been held tight, not only in original closure, but for every reclosure, with a Spring Stopper Seal.

This is because the Spring Stopper Seal (of Glass, Porcelain, Durez, Bakelite) screws *into* a thread which is formed on the *inside* neck of the bottle.

You can have this thread moulded in your bottle as easily as the outside thread is formed.

If you want to see Spring Stopper Seals safeguarding a fine product, walk into any five and ten cent store and examine a well-known brand of hydrogen peroxide.

Or ask us for samples, of seal or applicator rod, specifying the nature of your product so proper liners may be sent.

Spring Stopper Co.

165 Broadway, New York, N. Y.

Telephone Cortlandt 1495-1496-1497

Patentee of bottle finishing devices applied to the various types of automatic bottle making machines. Patents in United States, Canada and Foreign Countries.